THE FINANCIAL Analysts Journal

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Articles . . .

Features . . .

IN OUR MAY-JUNE ISSUE

More than thirty prominent European firms in nine countries, as well as foreign stock exchanges, will be visited by U. S. and Canadian Financial Analysts during April; their observations will be summarized. Also, corporate articles about Hawaii's economy, authored by members of The Security Analysts of San Francisco who recently visited the dollar-conscious Pacific Islands.

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Inventing new ways to improve communications is an important part of our business at General Telephone & Electronics.

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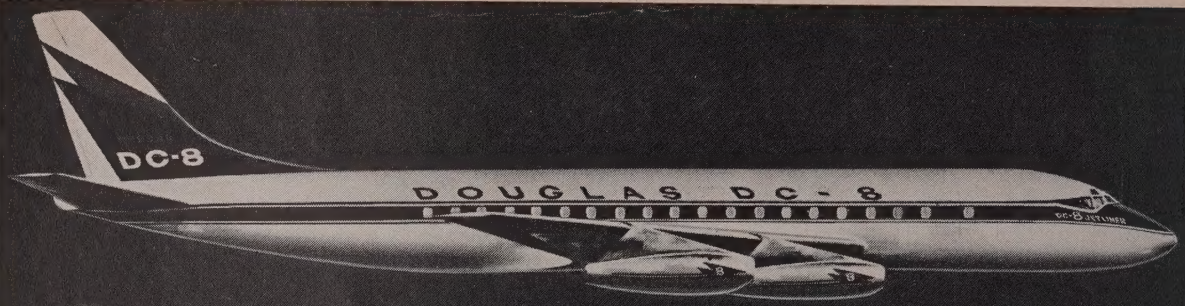
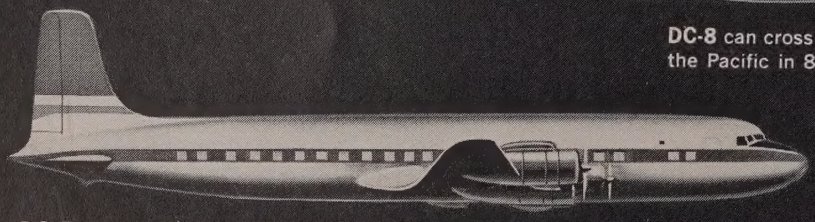


DC-8 can cross the country in 4¾ hours, flies the Pacific in 8½ hours, the Atlantic in 6½.



DC-7 was the first airliner to provide scheduled non-stop service coast-to-coast.

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THE FINANCIAL
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A Library in Search of Books

Books are one of mankind's greatest treasures and an indispensable tool of Financial Analysts. Which is one way of approaching our subject.

It's now been more than a year since *The New York Society of Security Analysts* realized a nineteen-year dream and moved into its own sparkling new, administratively efficient and downright impressive headquarters located over the plush Coachman Restaurant—whose manager also masterfully handles all catering for The New York Society.

And it is there that the nation's top company executives convene to discuss long-range corporate policies. And while in the Society's quarters we fear that some of them see the almost barren bookshelves in the Library. But of much *greater* importance than *mere* appearance is the fact that the Library should serve as a place where Financial Analysts could browse amid a complete collection of financial reference books. But, alas, this room now serves mainly as an auxiliary dining room to handle an overflow from the headquarter's three regular dining rooms—and not as a Library, its original purpose.

So, we are sending an S.O.S. to all interested in turning this space into a really adequate financial Library. Books, please, and quickly! Moreover, we'll use our editorial columns to make identical book pleas for all our other Societies as they establish themselves in their own headquarters.

Meanwhile, please send books, irrespective of condition, to L. Haskell Sweet, Business Manager, *The New York Society of Security Analysts,* 15 William St., New York 5, N. Y.

* * *

The Journal Inside Russia

Without even sending a desk-thumped shoe, Russia's schizophrenic Premier Khrushchev is being invited to ask for a year's free subscription to *The Exchange,* publication of the New York Stock Exchange. The idea is to add a Soviet subscriber (as The Exchange states it has none) to that magazine's paid circulation list.

This made us wonder if *The Financial Analysts Journal* had penetrated the Iron Curtain. And by scanning our hundreds of non-Analyst foreign subscribers, we find that we're entering Russia at three points with a total of nine subscriptions. One goes to the oil-rich Baku area; two to Alma-Ata; and six go to Moscow.

Now, whether Mr. K. is one of our "faithful" readers we'll probably never know. But it's for certain that if our Journal circulates around the Kremlin the Comrades must, per force, read about the virtues of the *People's Capitalism* at work. At any rate, nine Russian comrades are sending us $5.50 each year; and we can only hope that these obviously intelligent readers view our observations as being objective—and not mere financial and statistical propaganda which their government is constantly ramming down Ivan's throat.

Another interesting discovery, as we thumbed through our foreign circulation cards, was finding that we have fourteen subscriptions going to Japan. And in view of that country's post-war business and economic expansion, plus the thousands of Japanese stockholders who purchase shares through the Tokyo Stock Exchange, we have every hope that our articles are opening new doors to profits—a matter which our Russian friends stubbornly refuse to acknowledge as a distinctive feature of free nations.

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1960 — 1961

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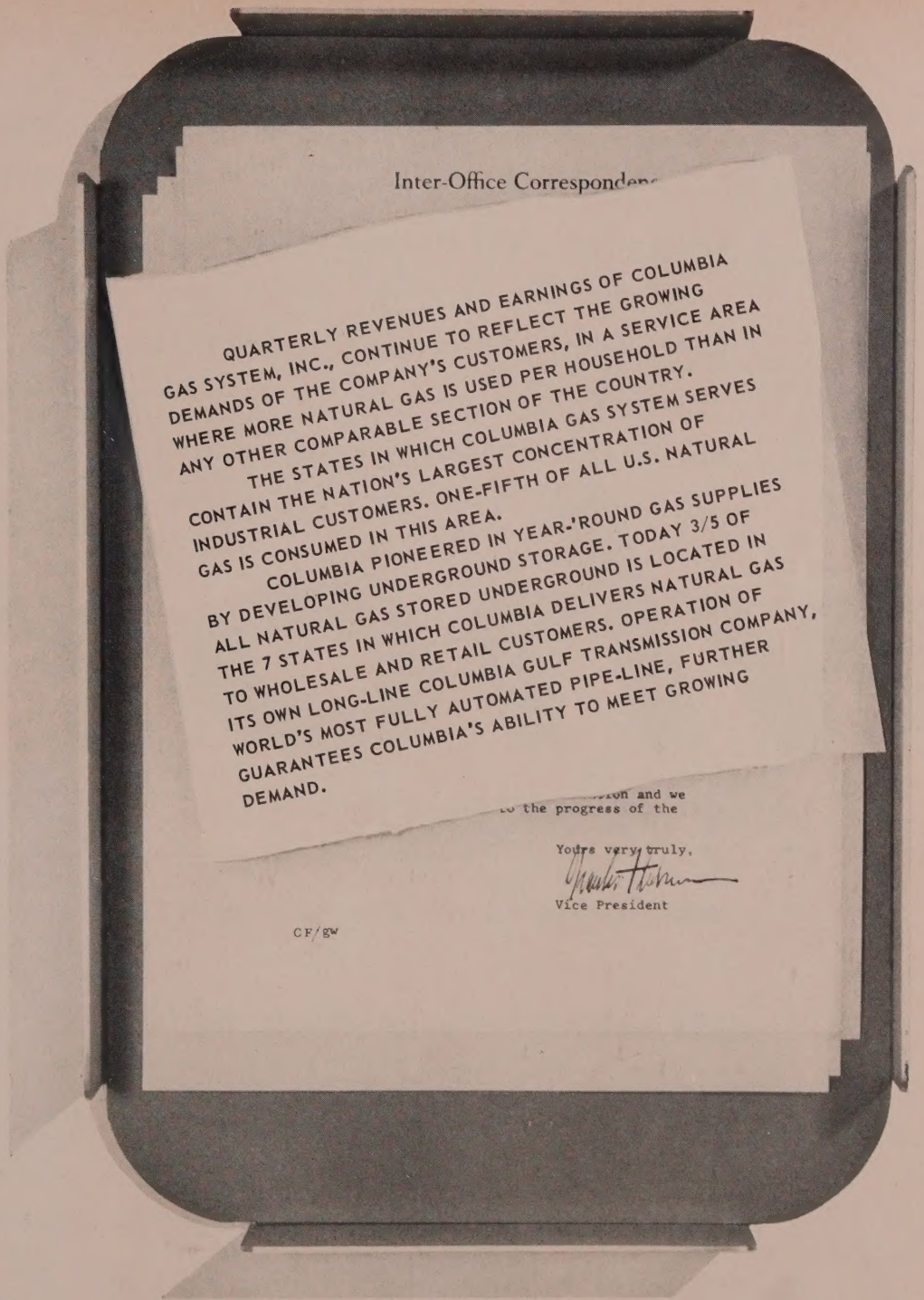

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WHO is at work on a satellite system for global telephone and TV transmission?

WHO provides the communications channels for America's missile defenses?

WHO is girdling the globe with communications for America's first man into space?

WHO tapped the sun for electric power by inventing the Solar Battery?

WHO used the moon for two-way conversations across the country?

who?

WHO guided Tiros and Echo into accurate orbit?

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WHO maintains the world's largest, finest industrial research facilities?

WHO supplies the most and the best telephone service in the world?

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The Dow-Jones Industrial Average

Its Virtues and Idiosyncrasies

An Interview with Charles J. Collins

Many Financial Analysts have leveled criticism not only at the composition of the Dow-Jones Industrial Average, but also at the exaggerated influence of this average upon investor psychology. In well-reasoned answers of exceptional vein, Charles J. Collins explores the weaknesses of this average in a Journal interview; yet maintains that on an overall basis, the advantages of historical continuity outweigh the disadvantages of such distortions as exist. All Financial Analysts, whether favoring or not favoring the Dow-Jones Industrial Average as an index of market performance, should enjoy Mr. Collins' observations with possible tongue in cheek. Mr. Collins concludes that those who use this average to measure the fluctuations of the market "should be cognizant of its idiosyncrasies."

Mr. Collins, an investment counselor, has contributed articles to many of the country's leading financial publications and is author of the book "Fortunes Before You." He is a member of The Financial Analysts Society of Detroit—The Editors.

Q. Mr. Collins, isn't it true that most Americans who are interested in the stock market judge its action by what the Dow-Jones average is doing?

A. If you are referring to the Dow-Jones industrial average, I would say yes. There is also a Dow-Jones rail and a utility average. The latter averages, however, each reflect single groups. The industrial average is made up of stocks from a large number of industries. Hence, it is the most keenly watched.

Q. Why is the Dow index so popular?

A. There are a number of reasons. For one thing, unlike other of today's market averages that have been developed over recent decades and then arbitrarily worked backward to the turn of the century or beyond, there is nothing synthetic about the Dow-Jones industrial average. Stated another way, it is one average, as is true of the Dow rail average, that does not have the benefit of hindsight. Its daily, on the spot, compilation goes back to 1897 when Charles H. Dow, founder of Dow Jones and Co., and editor of the *Wall Street Journal* started its publication. It is the longest consecutive daily record available of economic changes as reflected in stock market prices.

Q. Are there other reasons for the popularity of the Dow average?

A. Well, aside from being, because of its history, the best-known average, Dow Jones and Co. has stock and news tickers in brokerage houses throughout the nation and its three averages are immediately available, not only daily, but by hourly computation. Also, the *Wall Street Journal* is the country's most widely read financial daily, and here, again, the Dow-Jones averages are made available daily.

Q. You said something a moment ago about stock prices reflecting economic changes. What do you mean by that?

A. The American stock market, and particularly the New York Stock Exchange, is a meeting place where minds from all over the world, in their financial operations, are registering their opinion of the future of the American economy so far as that future can be reckoned. It follows that the stock market is a sensitive barometer that reflects important economic changes, either transpiring or pending. In this connection I am reminded of a statement by Talleyrand. He said that he knew somebody that knew more than anybody and that was everybody. The stock market, financially speaking, is everybody's discounting of the American economic outlook.

Q. Can't the stock market sometimes guess wrong about the country's future?

A. On occasion it has, but generally the market proves to be right. Let us say, it is prescient. Take the autumn of 1957, for instance. The market turned up in October of that year, or while business was in a recession. The business turn for the better did not arrive until April, 1958. The stock market anticipated the business turn by six months.

Q. Can you mention an occasion when the market has been wrong?

A. It made a great mistake in staying down between late 1946 and mid 1949. Corporate earnings were on the increase and the nation was beginning the greatest era of sustained prosperity in its history. Of course, it made up for it in subsequent years.

Q. What do you think caused this mistake?

A. The American investor remembered the experience in the year or two following World War I. We had a very acute depression in 1920 and 1921. Industrial production, as measured by the Federal Reserve Board index, dropped 32%. Corporate net earnings on common shares, as measured by a group of leading companies, dropped 79%.

Q. So you think the public was expecting history to repeat?

A. Yes.

Q. Does history ever repeat in the stock market?

A. I think I can best answer that by saying that when

dominant economic phenomena repeat, the stock market is apt to follow suit.

Q. Then why, following World War II, did we not have a repetition of the World War I economic experience?

A. There are numerous reasons. One of the most important was the great pent-up demand in the post World War II years for consumer durable goods and housing based on the long number of years of rearmament, or non-peace goods manufacture and home building, combined with the huge public savings of the war years. Again, there were many technological developments of the war period that, with arrival of peace, created a great demand for capital investment on the part of industrial management. But, perhaps, the greatest force of all was the fear on the part of the public that the World War I economic experience would repeat. Investors and business men followed a cautious policy. They refused to over-extend, or as they say in poker, they played close to the belt. This prevented an immediate major postwar boom and bust.

Q. Well, coming back to the stock market, how many stocks are normally traded over the New York Stock Exchange in a single day?

A. Around 1100 to 1200.

Q. How many stocks are in the Dow-Jones industrial average?

A. Thirty.

Q. How can just thirty stocks—let's see that's only 2% or 3% of the number of stocks you say are traded on a normal day—reflect what the market as a whole is doing?

A. In the first place, the stocks making up the Dow-Jones industrial average have been handpicked by experts, and changed from time to time, with that objective in view. These stocks are not only leaders in their particular industries, they are greatly diversified. Twenty-two of the country's major industries are represented in the Dow average, these industries being agricultural equipment, aircraft, aluminum, automobile, building, chemical, container, copper, electric equipment, glass, meat packing, nickel, packaged foods, paper, petroleum, recreational and leisure time products, retail trade, rubber, soap, steel, telephone and tobacco. Taken collectively, as these industries go, so goes the nation, generally speaking. If U. S. Steel, which is one of the stocks in the industrial average, starts going up or down in a sustained way, the odds are that other companies in the steel industry and their stocks, are being affected to some degree, by the same influences that are playing on U. S. Steel. If a large majority of the important industries represented in the Dow industrial average are in a period of rising prosperity, then the odds greatly favor the nation being in a similar state. Putting former Secretary of Defense Wilson in reverse: What's good or bad for the country is good or bad for the Dow average.

Q. Then you think the Dow average is truly representative of what the general stock market is doing?

A. In its broader, or several month and year to year swings, yes. In some of its shorter moves, particularly at critical points, not always.

Q. No?

A. No.

Q. What do you mean when you refer to critical points?

A. As one example, the Dow average will sometimes see-saw back and forth between a fairly level ceiling and floor. The longer this trading range lasts, the more the public becomes interested in which way the average is going to break out. Up or down? Because the road the Dow average takes out, particularly if the break-away is accompanied by an increase in trading, is often a signal as to which way the general market is going. Therefore, the figures representing the ceiling and the floor become, to many investors, points that are critical.

Q. And you feel the Dow average does not always reflect the general market in a move through one of these critical points?

A. Yes.

Q. Why is that?

A. Because the Dow average does not always conform, in its price action at critical points, to the price performance of the stocks making up the average.

Q. Can you be more explicit?

A. I can give you an example—in fact, a recent one.

Q. What is that?

A. On Friday, Sept. 16, 1960, the Dow-Jones industrial average closed at 602.18. This was the fourth occasion during that year—March, May and July being the others—when the average, after a good advance, had dropped to around the 600 level but had refused to go any lower. In other words, the 600 level on the Dow, to the many who judge the general market by what the Dow does, had become a critical point and when the average got back to it on September 16 the public, uncertain as to the business outlook, anxiously awaited its action. If it again showed a strong rebound, this would be taken as a good augury for the hoped-for autumn business upturn. If it crashed through on the downside, the omens as to good business for the months ahead would be subdued.

Q. And what happened to the Dow in the following market session?

A. It closed on Monday, September 19, at 586.76, a drop of some fourteen points under the critical 600 level that had been the floor throughout the year to date. But here's the interesting point. Actually, the stocks in the Dow-Jones industrial average, considered collectively, did not go into the new low ground as compared with their performance prior to September 19. Ten of the stocks, (seven if you eliminate the three stocks that

1960 Lows on Stocks in Dow-Jones Industrial Average Through 9/16/60 (Col. 1) and Their 9/19/60 Closing Price*

			Gain	Loss
Allied Chemical	47.0	51.0	+ 4.0	
Alcoa	64.4	63.1		—1.3
American Can	37.1	37.3	+ 0.2	
Amer. Tel. & Tel.	79.7	91.6	+11.7	
Amer. Tobacco	51.1	61.2	+10.1	
Anaconda Co.	46.2	45.6		—0.4
Bethlehem Steel	42.0	41.0		—1.0
Chrysler	40.0	41.6	+ 1.6	
duPont, E. I.	187.4	188.0	+ 0.4	
Eastman Kodak	94.0	112.2	+18.2	
General Electric	78.0	75.5		—2.3
General Foods	61.4	65.7	+ 4.3	
General Motors	42.4	43.0	+ 0.4	
Goodyear	34.0	34.4	+ 0.4	
Inter. Harvester	41.1	39.2		—1.7
Inter. Nickel	50.4	48.2		—2.2
Inter. Paper	92.4	90.1		—2.3
Johns-Manville	44.6	52.2	+ 7.4	
Owens-Ill. Glass	93.0	92.3		—0.5
Procter & Gamble	81.6	120.4	+38.6	
Sears Roebuck	44.4	50.5	+ 6.1	
Std. Oil of Calif.	40.0	43.4	+ 3.4	
Std. Oil of N. J.	40.0	40.3	+ 0.3	
Swift & Co.	39.4	41.4	+ 2.0	
Texaco Inc.	64.4	73.1	+ 8.5	
Union Carbide	112.4	111.0		—1.4
United Aircraft	32.3	40.2	+ 7.7	
U. S. Steel	74.1	73.4		—0.5
Westinghouse Elec.	45.4	48.5	+ 3.1	
Woolworth	59.0	65.6	+ 6.6	
Dow-Jones Divisor 3.38	1861.00	1983.25	$136.75	$14.50
	550.59	586.76		

*Stock Fractions are in Eighths instead of Tenths.

each broke less than $1) went below their early year lows by an average of $1.45 for the ten. But twenty of the stocks in the average were above their lows of the year by an average of $6.33¾. Stated another way, if an investor had purchased one each of the stocks in the Dow-Jones industrial average at its low point prior to the September 19 breaking of the 600 level, and had sold all thirty stocks at the 586.76 level on the Dow on September 19, he would have wound up with a net profit of $122.25 on his $1,861 investment. This assumes no brokerage charges, of course.

Q. So the Dow average plunged decisively to a new low figure for the year on September 19 but the stocks making up the average, taken collectively, actually failed to go into new low ground?

A. Correct. Furthermore, if you will check all common stocks traded over the New York Stock Exchange on September 19—1105 in number—you will find only 15% went into new low ground on that day.

Q. What's the joker?

A. The joker is that the public looks at the price established by the Dow-Jones average on a particular day that happens to be critical but overlooks a more important consideration. This is the habit of individual stocks in the average making their low or high points at different times. As a result, the Dow average (or any other non-inclusive average, for that matter) except in the most unlikely occasion (if ever) when all stocks in it make a low or high simultaneously, presents a distorted picture on such occasions as September 19, when the average gives a market indication not squaring with the market, itself. To illustrate, the Dow average, on September 19, could have declined to 550.59, or some 50 points under the 600 level, without any stock in the average having to go into new low ground. It would only have required a simultaneous return by each stock to its previous low point.

Q. So the Dow average gave a false signal on September 19?

A. Not necessarily. If a sufficient number of people, regarding the Dow average as a criterion of the general market, were subsequently moved, or shall I say, panicked to sell their holdings, the whole market would move down. This would be a market decline motivated by a psychological development, but $10 down, no matter how you look at it, is still $10 down. Furthermore, a weak or strong average is psychologically depressing or heartening, as the case may be, to the business community and affects its decisions.

Q. Then, if at some critical point, the Dow averages were forced to break such point by heavy selling or heavy buying of some of the stocks in it on the part of outside interests, it would bring about the result it assumedly foresaw?

A. That is conceivable.

Q. Do you think this happens?

A. I don't know. Charles H. Dow, in an editorial of July 20, 1901, had something to say on the subject that may be of interest. I quote: "A method employed by some operators of large experience is that of responses. The theory involved is this: The market is always under more or less manipulation. A large operator who is seeking to advance the market does not buy everything on the list, but puts up two or three leading stocks either by legitimate buying or by manipulation. He then watches the effect on the other stocks. If sentiment is bullish, and people are disposed to take hold, those who see this rise in two or three stocks immediately begin to buy other stocks and the market rises to a higher level. This is the public response, and is an indication that the leading stocks will be given another lift and that the general market will follow. If, however, leading stocks are advanced and others do not follow, it is evidence that the public is not disposed to buy. As soon as this is clear the attempt to advance prices is generally discontinued."

Q. Then it is conceivable that the Dow average could be manipulated?

A. Let us put it more gently by saying that the Dow average, or any other average made up of a small number of stocks, through no fault of its own, is subject to manipulation. I refer only to these so-called critical points. In its broad sweep there is no possibility, in my

opinion, of manipulating any well chosen stock average. Keep in mind that the stock market, in its major moves, reflects the trend of the national fortune. No professional group or combination could be wealthy enough or powerful enough to manipulate so representative a list of stocks as those in the Dow average contrary to the national trend.

Q. Mr. Collins, you say that on Friday, September 19 last, the Dow-Jones industrial average closed at 602.18 and on the following trading day, Monday, September 19, it closed at 586.76. This was a net decline of 15.42 points. How much were the 30 stocks that make up the average off in price between those two dates?

A. The average decline by the 30 stocks in the Dow-Jones average, based on their closing prices of September 16 and 19, was $1.73.

Q. Yet the average dropped nearly 16 points?

A. Precisely. And all the newspaper commentators had a field day, telling how many billions of dollars had been knocked off values between the two dates. Their figures were correct but their emphasis was misplaced.

Q. Why this difference between the drop in the Dow average and the drop in the stocks making up the average?

A. Over the years, as stocks in the Dow average have split or otherwise changed value overnight for non-market reasons, the divisor in the average has been changed in order that price continuity of the average could be maintained. Today, after adding up the value of the thirty stocks, such value is not divided by 30 but by 3.38 to get the average. As a result, for each average $1 decline in the 30 stocks in the Dow average, there is an approximate 8.88 point decline in the Dow average. On September 16 the average price at which the 30 stocks in the Dow average closed was $67.84; on September 19, $66.11.

Q. So a big drop or rise in the Dow does not signify a big drop or rise in the general market?

A. Not at all.

Q. Do you think the Dow average could be improved?

A. There are some market analysts who have criticized the Dow average from one angle or another. In my opinion, it has, as an average, performed ideally. I would dislike to see it changed as to structural content. Of course, from time to time, the stocks in the average must be changed if the average is to remain representative. But one who watches or relies on the Dow average as an index of market performance should be cognizant of its idiosyncrasies.

CLARK® EQUIPMENT COMPANY

CONDENSED FINANCIAL REPORT

DECEMBER 31

1960

The Company has mailed to all shareholders as of February 20, 1961, a preliminary report containing the financial statements for the year ended December 31, 1960. The financial report and operating particulars presented here, in condensed form, have been prepared by the Company from the more detailed financial statements certified by the company's public accountants, Price Waterhouse & Co. Copies of the preliminary report to shareholders are available upon request sent to the Secretary at the home office of the company at Buchanan, Michigan.

CLARK EQUIPMENT COMPANY

President

SALES, INCOME AND OTHER PARTICULARS FOR THE CALENDAR YEARS 1960 AND 1959

	1960	1959
NET SALES	$196,768,926	$208,183,997
Income before federal income tax	$ 11,041,703	$ 24,001,804
Provision for federal income tax	4,300,000	11,600,000
NET INCOME for the year	$ 6,741,703	$ 12,401,804
CASH DIVIDENDS:		
Common Stock—$1.20 per share in 1960 and $1.125 per share in 1959 (adjusted for 2 for 1 stock split in May, 1960)	$ 5,727,826	$ 5,348,692
Preferred stock (retired in 1959)	—	14,538
TOTAL DIVIDENDS	$ 5,727,826	$ 5,363,230
EARNINGS per share of common stock outstanding (after dividends paid to preferred shareholders)	$1.41	$2.61

Balance Sheet—December 31, 1960

ASSETS

CURRENT ASSETS:		
Cash	$ 7,394,748	
Accounts receivable	21,160,930	
Inventories—at lower of cost or market	50,685,878	
Prepaid expenses	1,094,646	$ 80,336,202
INVESTMENTS		20,251,604
LAND, BUILDINGS AND EQUIPMENT	$ 58,903,219	
Less—Depreciation	27,247,342	31,655,877
		$132,243,683

LIABILITIES

CURRENT LIABILITIES		$ 31,390,541
LONG TERM NOTES PAYABLE		30,500,000
CAPITAL STOCK AND RETAINED EARNINGS:		
Common stock—par value $10 per share (4,805,902 shares)	$ 48,059,020	
Capital in excess of par value of shares	296,414	
Earnings retained and used in the business	22,121,356	
	$ 70,476,790	
Less—Cost of 11,776 shares held in treasury	123,648	70,353,142
		$132,243,683

Looking Ahead With Armco

Armco Steps Up Plant Improvement Program in 1961

Armco's long-range program for improving operating efficiency and broadening product lines will move ahead at a stepped-up pace in 1961.

With benefits from earlier capital investments already being realized, Armco is planning to increase capital spending by 67% over the 1960 rate.

Major projects are under way at almost every location where Armco produces steel and steel products. The Armco Division is installing a new continuous coating line (the world's largest) at Middletown, Ohio; new stainless steel facilities at Butler, Pa.; new warehousing facilities at Baltimore, Md.; new processing and finishing equipment at Ashland, Ky.

This Steelmark says a product is made of modern, dependable steel. Use it on products you make; look for it on products you buy.

Armco's National Supply Division is beginning work on a major pipe mill at Ambridge, Pa. The Sheffield Division is building a combination slabbing and plate mill at Houston, Texas. New spiral welded pipe facilities for Armco Drainage & Metal Products will be under construction at Middletown.

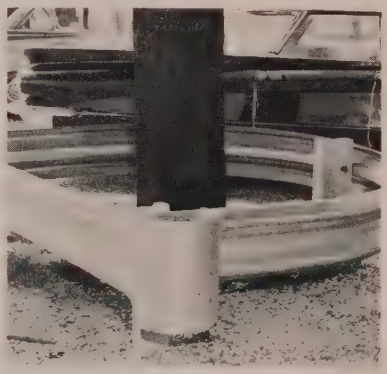
A plant to produce alloy steel grinding balls for nearby copper mines will be completed in Chile this year. Armco Chile S.A.—a new corporation formed by Armco International Division and Compania Electro Metalurgica S.A. of Santiago—will operate the plant.

Growing demands for special steels that meet more exacting requirements are behind much of this building program. Greater efficiency in production will be another result.

Research on new products and the processes to make them will continue to receive highest priority at Armco.

New Econo-Beam Guardrail Has Many Off-Highway Uses

A new light-gage guardrail for such non-highway uses as parking lots, drive-in restaurants and similar applications has been introduced by Armco Drainage & Metal Products.



Called Econo-Beam, it is galvanized on both sides and does not require painting to protect it against the weather. It is spliced with just four bolts, instead of the eight used for regular highway guardrail. Lightweight sections are fastened to steel, timber or concrete posts by a single bolt.

Armco "Graduate" Course Develops Management Skill

Development of management from within the corporation has always been an Armco policy, and a new Armco-developed program, "The Profession of Management," has an important role.

Armco managers at all levels are studying the principles of scientific management as they relate to Armco.

Managers attend a series of seven film showings, Each showing is followed by conference sessions in which specific principles are applied to local problems. Armco Steel Corporation, General Offices, Middletown, Ohio.

ARMCO

Divisions: Armco • Sheffield • National Supply • Drainage & Metal Products • International

Dow-Jones Industrials—A Reappraisal

by Nicholas Molodovsky

WE LEFT THE READERS of this *Journal* on June 1, 1960 and, on February 1, 1961, are on our way to visit them again. Inevitably, the time consumed in printing and distributing *the Journal* will create a hiatus between the completion of this study and the time it is in the readers' hands. This lag may turn out to be long if a reader's busy life should prevent him for a while from picking up this publication after it is placed on his desk. In an area so subject to change as are estimates of corporate earnings and fluctuations of stock prices, the writer must rely on the readers for making the necessary adjustments.

It is, in fact, the main purpose of this paper to review the changes in the estimates of earnings and in the resulting appraisals of the 30 Dow-Jones Industrial Average stocks as shown in *Table II,* dated June 1, and published in the July-August 1960 issue of *The Financial Analysts Journal.* But let us first throw a glance on how our estimates of investment values have fared in the seven months elapsed from June 1 through the year-end.

The most practical way to check the results is to classify the 30 stocks, as well as the DJIA itself, as measured by our estimated values, into three separate groups: stocks fairly priced by the market on June 1, and those respectively underpriced and overpriced.

Instead of sounding trumpets of triumph over the rapid compliance of prices with values in the case of both under-priced and over-priced stocks, we wish to remind our readers about some special characteristics of this period. On June 1, 1960, the Dow-Jones Industrial Average closed at 624.89. Before the end of the month, it crossed 660 by a slight margin, and then entered the liquidating phase of the 1959-1960 bear market, touching a low of 564.23 by the end of October. The reversal was fast and the new bull market began with vigor. Still, by the year-end, the DJIA could not quite make its closing level of 624.89 of June 1.

Against such a quickly shifting background, it is difficult to find points of reference for comparing values and prices. Normally, the recognition of investment value by market price is a slow process. And even where value and price at last coincide, they may soon part again under the sway of some psychological or other influences playing on the ever sensitive prices. To use

Table A

Stocks Fairly Priced on June 1, 1960

	Estimated 1960 Investment Value	June 1, 1960 Closing Price	Subsequent 1960 Average Price
Chrysler	45	44 7/8	44 7/8
International Nickel	55	55 1/8	53 3/8
Johns-Manville	63	61 5/8	55 3/4
Owens-Illinois Glass	102	103	99 3/8

Table B

Stocks Under-Priced on June 1, 1960

	Estimated 1960 Investment Value	June 1, 1960 Closing Price	Subsequent 1960 High
American Tobacco	63	54 5/8	65 7/8
Anaconda	65	47 3/8	55 1/4
Bethlehem Steel	48	44 1/4	49 1/4
General Motors	50	43 7/8	47 1/2
Goodyear Tire & Rubber	43	40	41 1/2
International Harvester	50	42 1/2	48 1/4
Standard Oil of California	57	40 1/8	48 3/8
Standard Oil of New Jersey	43	40 1/8	43 3/8
Texaco	83	65 1/2	85 5/8
United Aircraft	49	37 3/4	46 1/2
U. S. Steel	94	79 1/4	86 3/8

Table C

Stocks Over-Priced on June 1, 1960

	Estimated 1960 Investment Value	June 1, 1960 Closing Price	Subsequent 1960 Low
DJIA	570	624.89	564.23
Allied Chemical	42	52	46
Aluminum Co. of America	73	90 1/4	61 3/8
American Can	36	38 7/8	30 3/4
American Tel. & Tel.	85	91 3/4	87 5/8
E. I. duPont	169	205 1/4	178 3/4
Eastman Kodak	83	119 1/2	96 3/4
General Electric	71	89 1/4	70 1/4
General Foods*	46	60 3/4	59 1/8
International Paper†	30	33 3/8	28 3/8
Procter & Gamble‡	76	108 1/2	106
Sears Roebuck	40	51 7/8	49 1/8
Swift	41	43 7/8	39 1/2
Union Carbide	112	133 1/2	106 1/2
Westinghouse Electric	38	59 1/4	45
Woolworth	64	69 1/4	63 1/2

*Adjusted for a 2:1 split on August 24, 1960.
†Adjusted for a 3:1 split on December 30, 1960.
‡To be split 2:1, effective April 7, 1961.

Nicholas Molodovsky holds a master's degree in economics from Harvard University and a doctor's degree from the University of Paris. He has been active for more than 25 years in investment management and financial analysis in the United States and Europe. He is the author of many publications in economics and finance, an Associate Editor of "The Financial Analysts Journal" and a correspondent of "La Vie Francaise" of Paris.

The author wishes to thank the friendly experts who contributed earnings estimates of stocks appraised in this paper and to Catherine R. May who prepared all the calculations, tables and charts.

a photographer's phrase, investment values are centers of the "circle of confusion" of prices.

The rapidity of the decline of so many of the over-priced stocks was largely due to the general cyclical fall of stock prices. Even at that, three over-priced DJIA stocks, while moving slightly lower, did not abandon their penthouse of overpricing: General Foods, Procter & Gamble and Sears Roebuck. In the case of Procter & Gamble, the company had brought to market a winning new product officially endorsed by a profession of redoubtedly monolithic power. A review of the company's estimated earning power seemed to be in order. But, more generally, during the period of declining business activity and investment sentiment, buyers were seeking out stocks offering stronger defensive characteristics. To quote Editor Donald I. Rogers from the *New York Herald-Tribune's* financial page of January 26, 1961: "Defensive stocks have been all the rage since the market first began to go into a tailspin a year ago. Heavy buying has pushed some utilities, many food companies and a portfolio full of other 'depression resistant' issues to all-time highs."

While bending backwards in order not to claim for estimated investment values more credit than they deserve, we can think of no strong arguments that would destroy the significance of *Table B* showing the action of under-priced stocks. During most of the period from June 1, 1960 through the year-end, they were submerged in an avalanche of collapsing stock prices. And after the reversal had come, the rise which took place during the remaining two months of 1960 did not carry the Dow-Jones Industrial Average quite up to the level of our point of departure of June 1. The under-priced stocks did not benefit, therefore, from any outside upward influence or bias. Yet under such difficult and adverse conditions, they acquitted themselves well.

However, even when the results achieved are creditable, an appraiser should not remain asleep at his valuation switch. While not as volatile as stock prices, earnings and their projections into the future are subject to change with notable effects on the patient's health. Periodic check-ups are necessary.

The need for vigilant watching could not have been emphasized more than by the recent experience of the steel stocks and the havoc wrought with the estimates of a single year's projections before that year had a chance fully to run its course.

We confront below, in round figures, 1960 per share earnings estimates for ten well-known steels, such as they were projected by representative steel industry analysts at the inception and towards the close of that year. *Table D* also compares the highs of January 4, 1960—the year's first stock market session—with the subsequent 1960 lows of the same stocks.

Strange Case of the Steel Stocks

As 1960 bowed in, steel's prospects seemed brilliant. The longest strike in the industry's history, lasting 116 days, had just been settled. 1960 production was expected to reach an all-time high of 130 to 135 million tons, equivalent to an operating rate of close to 90% of capacity. New earnings records were confidently anticipated, and a number of dividend increases and stock splits appeared to be in the cards. Price increases of the industry's products looked inevitable later in the year. Many analysts regarded a price boost of at least $8 per ton over the 30-month life of the year-end contract as necessary to cover the cost of the new wage package. Such a projected increase in price did not even take into account the need of covering the likely non-wage cost rises, such as higher iron ore prices.

Some four years ago, a leading analyst of the steel industry presented facts and figures which illustrated that the earnings per share of U. S. Steel, Bethlehem Steel and Republic Steel had recorded a greater percentage increase from 1939 through 1955 than had duPont, Dow Chemical, Monsanto, Union Carbide, Minnesota Mining, Alcoa and Minneapolis-Honeywell. He also showed that 1939 was not a "freak" year, but that similar relative comparisons would result if 1945, 1947 or 1950 were taken as the base years. The conclusion was that, in the only kind of growth which really matters, namely, the growth in earnings per share, the leaders of the steel industry ranked extremely high as compared to the performance of a recognized list of "growth stocks."

At the inception of 1960, this view still seemed to hold. Some minority voices sounded unduly pessimistic. In retrospect, as usual, it is much easier to enumerate the underlying troubles that were plaguing the industry

Table D

1960 Earnings Estimates and Price Ranges of 10 Selected Steel Stocks

	Early 1960 Estimates	Late 1960 Estimates	% Decline of Estimates	1/4/60 High	1960 Low	% Price Decline
Allegheny Ludlum	$3.50	$1.90	46%	$56 1/2	$32 1/4	43%
Armco Steel	7.00	4.70	33	77 1/2	57	26
Bethlehem Steel	5.50	2.50	55	57 1/4	37 1/4	35
Granite City	8.00	2.60	67	37 1/2	30	20
Inland Steel	5.00	2.70	46	50	36 1/2	27
Jones & Laughlin	9.00	4.10	54	89 3/4	49 3/4	45
National Steel	10.00	5.50	45	98 1/4	68	31
Republic Steel	8.00	3.40	57	78 3/4	48 1/2	38
U. S. Steel	9.00	5.00	44	103	69 1/4	33
Youngstown S. & T.	16.50	7.00	58	138 1/2	84 1/2	39

and which came into sharper focus as the year progressed. By now they are sufficiently well known. A recent review of these negative factors was provided in the December 1960 issue of *Fortune,* which also discussed steel's efforts to meet the challenge and the probable impact of new policies and methods on the industry's future.

1961 *Values of Steel Stocks*

We used the case of the steel stocks to illustrate that appraisals can never be final. With this lesson in mind, we are tabulating below 1961 investment values—as they look on February 1, 1961—of our ten selected steels. The estimates of earnings and their projected growth rates were made by a qualified steel analyst. For our readers whose projections differ from those of *Table E,* we shall be glad to recompute investment values on the basis of their own figures.

Table E

1961 Investment Values of Selected Steel Stocks

	Earnings Per Share 1960	1961 (Est.)	Estimated Growth Rate of Earnings Trend Line 1961-70	Investment Value 1961	Closing Price 2/1/61
Allegheny Ludlum	$2.25	$2.50	5.5%	$43	$40 5/8
Armco Steel	4.76	5.00	5.0	76	69 3/4
Bethlehem Steel	2.52	2.60	3.0	43	44 5/8
Granite City	2.59	2.90	5.5	50	38
Inland Steel	2.68	2.75	4.0	43	44 1/2
Jones & Laughlin	4.04	4.25	4.0	67	64 1/2
National Steel	5.53	5.50	5.0	93	81 1/2
Republic Steel	3.36	3.50	3.5	59	59 1/4
U. S. Steel	5.17	5.25	3.5	73	83 1/8
Youngstown S. & T.	7.38	7.50	3.5	110	98

AN AILING GROWTH STOCK

The story of steel stocks shows a massive aberration of judgment in estimating just one year ahead an industry's earning power.

Serious mistakes may also be made in the case of individual stocks by projecting future earnings too far and with excessive confidence in continued stability of their recent growth rates.

In *Part Two* of "Stock Values and Stock Prices" (*The Financial Analysts Journal* of July-August 1960), we used the case of a hypothetical but dramatic growth stock for demonstrating the impact of steeply rising earnings on the stock's investment value. While earnings figures and their past growth rates were borrowed from Polaroid's record, we stressed that this resemblance of our hypothetical stock to PRD was of a purely fictional nature. We were anxious to separate reality and dreams since we made entirely arbitrary projections of future earnings of the non-existent Stock #1.

It so happened that the second half of 1960 turned out to be a period of transition in the real Polaroid's history. The delay and the cost of bringing into quantity manufacture two brilliant new products—the ten second film and an electric eye camera—as well as the resulting obsolescence of the old lines and the impact of general business conditions on sales—markedly dented the company's earnings. While the per share net for the first six months of 1960 was still 36.3% ahead of the corresponding period of the preceding year, that of the third quarter fell heavily behind its 1959 counterpart. The earnings for the full year 1960 have not as yet been released as this article goes to press. But instead of adding another link to the impressive chain of earnings growth by being some 40% higher than in 1959, as was rather generally expected last summer, they may register an actual and unaccustomed drop. Analysts will then be faced with the tough problem of a reappraisal.

They may assume, for instance, that the previously anticipated $3.75 a share will materialize in 1961 instead of 1960. Projecting from 1961 through 1970, an average annual rate of earnings growth of 15% to be spliced, at the end of that period, to our basic 2½% ignorance rate, and using our method of discounted present worth, they will come up with PRD values of 110 for 1961 and 170 for 1970.

Employing the same principles of valuation, but figuring that from the identical 1961 point of departure of $3.75 per share, earnings will grow through 1965, at 30% per annum, the following projections will result:

1961	$ 3.75
1962	4.88
1963	6.34
1964	8.24
1965	10.71

Many competent analysts, conversant with PRD's historical background and current affairs would probably find no objection to the rhythm of such projections subject, of course, to such cyclical interruptions as may occur. Some of them expect in the near future a successful introduction of a fast color film developed and printed as usual by the camera itself. They remain confident that from the company's outstanding research organization, led by the personal genius of Dr. Land, will flow for many years to come a stream of innovations in photography and other technological areas. A firm whose name has been often associated in recent years in Wall Street with successful analyses of PRD is currently estimating for that stock $4.00 a share for 1961 and is projecting $6.00 for 1962. If despite such expectations, and in order to reflect the effects of cyclical interruptions, and/or slowdowns in the company's growth for some reasons like those which marred the 1960 record, analysts were to cut down the earnings growth rate of 30% per annum projected above by one-half every five years, thereby reaching the 2½% ignorance rate by 1980, they would obtain for PRD a 1961 investment value of 225 with a 1970 valuation projection of 378.

Once again we extend to our readers an invitation to send in their own earnings projections. We shall be happy to furnish, in return, the corresponding investment values of PRD.

Whatever valuation figure may be assigned to PRD has less importance than the fact that estimated invest-

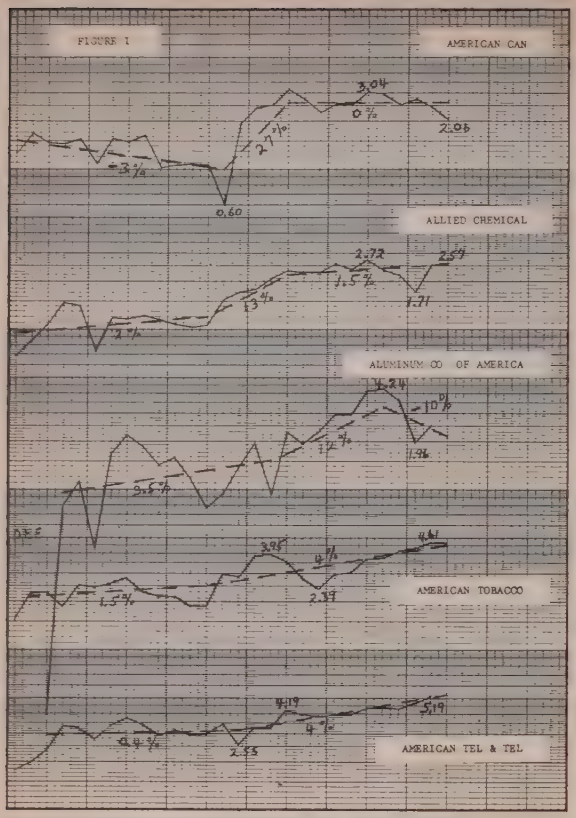


FIGURE I
AMERICAN CAN
3.04
0 %
2.06
2.7 %
0.60
ALLIED CHEMICAL
2.72
1.5 %
2.54
1.71
ALUMINUM CO OF AMERICA
4.24
10 %
1.96
DEF.
AMERICAN TOBACCO
3.85
4 %
4.61
2.39
AMERICAN TEL & TEL
4.19
4 %
5.19
2.55
1933 34 35 36 37 38 39 1940 41 42 43 44 45 46 47 48 49 1950 51 52 53 54 55 56 57 58 59 1960 61

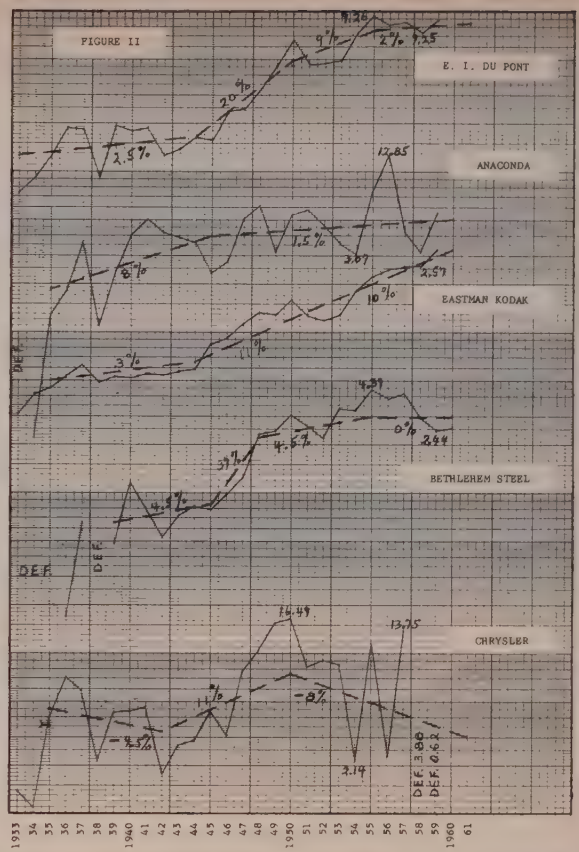


FIGURE II
E. I. DU PONT
9.26
9 %
2 %
7.35
20 %
2.5 %
ANACONDA
12.85
1.5 %
3.07
2.57
EASTMAN KODAK
8 %
10 %
DEF.
3 %
4.39
0 %
2.44
4.5 %
BETHLEHEM STEEL
DEF.
DEF.
DEF.
CHRYSLER
14.49
13.75
-9 %
2.14
DEF. 3.80
DEF. 0.62
1933 34 35 36 37 38 39 1940 41 42 43 44 45 46 47 48 49 1950 51 52 53 54 55 56 57 58 59 1960 61

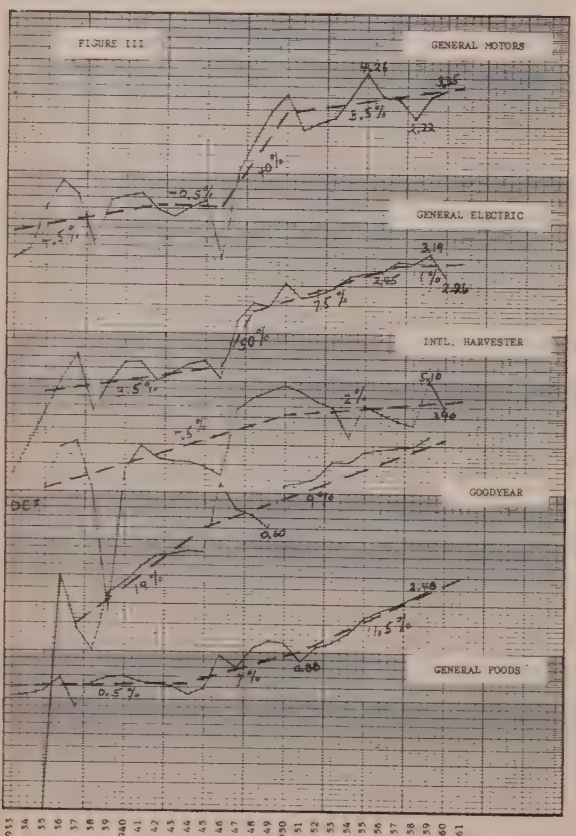


FIGURE III
GENERAL MOTORS
4.24
3.35
3.5 %
-.22
10 %
GENERAL ELECTRIC
-2.5 %
3.19
2.45
2.26
INTL. HARVESTER
2.5 %
5.10
2 %
3.40
GOODYEAR
DEF.
0.60
9 %
2.56
1.5 %
GENERAL FOODS
0.86
1933 34 35 36 37 38 39 1940 41 42 43 44 45 46 47 48 49 1950 51 52 53 54 55 56 57 58 59 1960 61

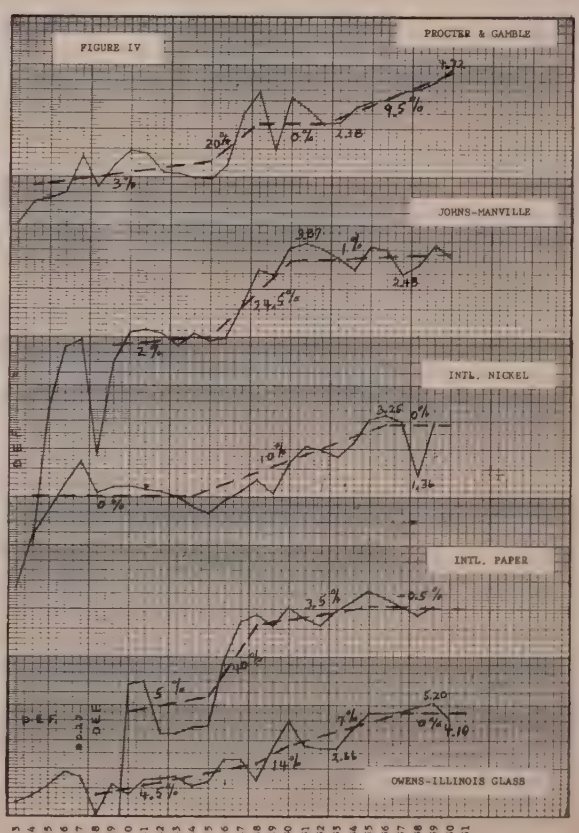
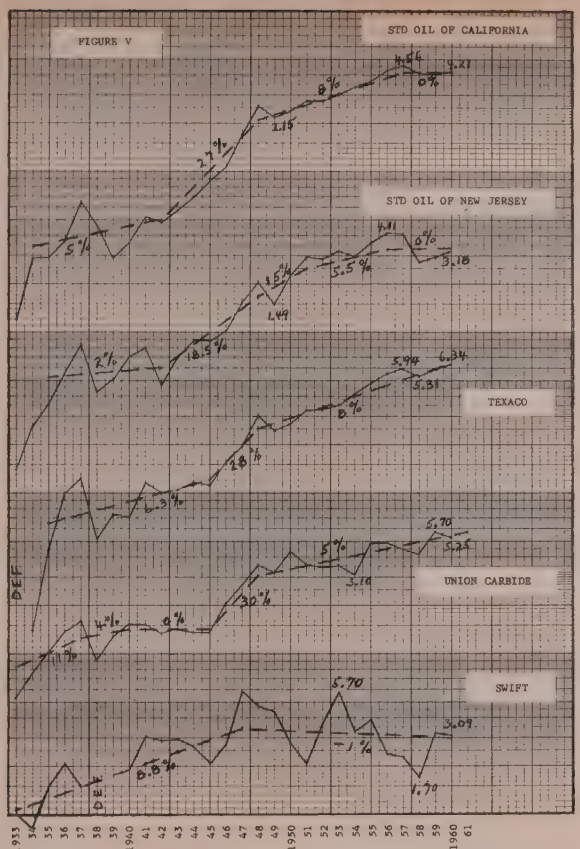
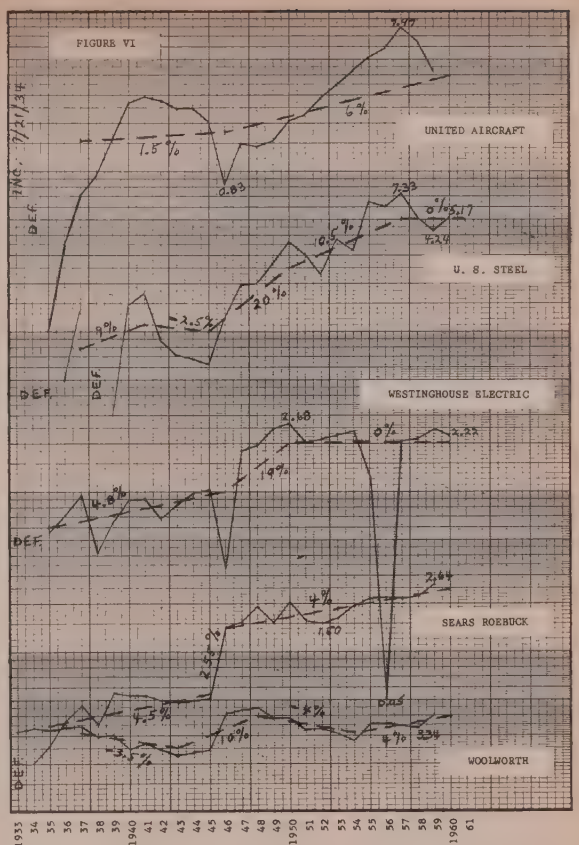


FIGURE IV
PROCTER & GAMBLE
3.72
9.5 %
20 %
0 %
2.38
3 %
JOHNS-MANVILLE
3.87
1.7
2.48
24.5 %
INTL. NICKEL
2 %
3.26
0 %
10 %
1.36
INTL. PAPER
3.5 %
-0.5 %
5 %
DEF.
DEF.
5.20
7 %
0 %
4.10
14 %
2.66
4.5 %
OWENS-ILLINOIS GLASS
1933 34 35 36 37 38 39 1940 41 42 43 44 45 46 47 48 49 1950 51 52 53 54 55 56 57 58 59 1960 61





ment values are strongly affected by changes in projections of future earnings. And as eight months have gone by since submitting to this *Journal* our last valuation of the 30 DJIA stocks—while the market in the meantime underwent the major operation of a change in its basic trend—it is high time to take another look at their investment values.

A New Bull Market

In terms of DJIA, the market made its low on October 24, 1960. Its vigorous uptrend has reconquered most of the ground lost during the 1959-60 declines. Some other indexes of the general action of stock prices —and in particular the broad Standard & Poor's "500" index—have already established new all-time peaks. The "500" index has been in new high ground since January 27, 1961.

On October 15, 1960 this writer sent to his clients a detailed personal memorandum entitled "Green Light." After examining the complexities and contradictions which are so typically present when facing investment decisions, our memorandum noted that:

"Investment decisions have mostly to be made on the basis of incomplete evidence. Once the economic case is closed, stock prices are already looking forward to the next cyclical phase, and, in the meantime, investors have missed occupying their seats on the fast flying stock market jet. Sifting probabilities rather than seeking certainties is the core of the art of investment. For our own part, we are willing to assume that stock prices are forming an important bottom."

The next few weeks proved to offer, in terms of the general market, the lowest buying level of the last several years. However, this pleasant result in no way facilitates our task of reappraisal. On the contrary, high and rising stock prices bring some perplexing and disturbing questions.

Valuation of DJIA Stocks

Our last appraisal of these thirty stocks was given in *Part Two* of our comprehensive study on "Stock Values and Stock Prices" published in two successive issues of *The Financial Analysts Journal.* A few reprints are still available and will be sent on first come, first served basis. This applies also to requests for copies of the "Green Light" memorandum. In the following discussion, to simplify matters, we shall refer to the study containing the preceding valuation of the DJIA stocks briefly as *Part Two.*

As in *Part Two,* we shall begin this reappraisal with a pictorial presentation. *Figures I* to *VI* trace changes in annual earnings and their respective trend lines of each of the 30 DJIA stocks since 1933. We could repeat verbatim all the remarks made in this connection in *Part Two.* To save time and space, we refer to the section bearing the same sub-title in *Part Two,* as well as

TABLE I

	Per Share Earnings		Estimated Growth Rate of Earnings Trend Line	Investment Values		Closing Price	2/1/61 Price as % of Investment Value	
	1960 Est. (A=Actual)	1961 Est.	1961-70	1961	1970	2/1/61	1961	1970
	$	$	%	$	$	$	%	%
DJIA	33.00	33.50	5.0	590	765	649.39	110	85
Allied Chemical	2.57A	2.55	6.0	46	61	57 1/4	124	94
Aluminum Co. of America	..7%	1.75	10.0	55	74	75	136	101
American Can	2.56A	2.40	3.0	38	47	35 3/4	94	76
American Tel. & Tel.	5.50	5.90	7.0	102	138	113 7/8	112	83
American Tobacco	4.62A	4.60	3.0	65	82	75 3/4	117	92
Anaconda	4.75	4.60	2.0	67	83	50 1/4	75	61
Bethlehem Steel	2.52A	2.60	3.0	43	53	44 5/8	104	84
Chrysler	4.00	3.90	2.0	41	49	39 1/8	95	80
E. I. duPont	8.20	8.00	7.0	155	208	207	134	100
Eastman Kodak	3.30	3.40	10.0	78	111	111 3/4	143	101
General Electric	2.26A	2.40	5.0	59	81	70 7/8	120	88
General Foods *	2.70	3.00	7.0	54	74	74	137	100
General Motors	3.35A	3.00	3.5	51	64	43 1/2	85	68
Goodyear Tire & Rubber	2.90	2.90	5.0	36	48	36 5/8	102	76
International Harvester **	3.40A	3.75	3.5	56	71	48	86	68
International Nickel	2.75	3.25	8.0	61	82	63 1/8	103	77
International Paper	..92	1.83	3.5	29	37	34	117	92
Johns-Manville	3.12A	3.60	6.0	61	80	61 1/8	100	76
Owens-Illinois Glass	4.10A	4.25	7.0	83	110	91 1/2	110	83
Procter & Gamble ***	4.72A	5.10	8.0	93	129	142 1/4	153	110
Sears, Roebuck ****	2.45	2.55	5.0	42	55	54 1/4	129	99
Standard Oil of California	4.21A	4.40	2.5	59	73	50 1/8	85	69
Standard Oil of New Jersey	3.18A	3.10	2.5	46	57	46	100	81
Swift **	3.09A	3.50	2.5	42	52	46 1/8	110	89
Texaco	6.34A	6.50	3.0	89	115	91 1/4	103	79
Union Carbide	5.25A	5.50	5.0	92	120	126 1/2	138	105
United Aircraft	2.35	2.00	1.5	50	63	42 1/2	85	67
U. S. Steel	5.17A	5.00	3.5	73	92	83 1/8	114	90
Westinghouse Electric	2.22A	2.20	7.0	40	53	47 7/8	120	90
Woolworth	4.25	4.25	5.0	66	86	66 7/8	101	78

FISCAL YEAR-ENDS..... * March 31 ** October 31 *** June 30 **** January 31

its immediately preceding and following sections entitled *Barter Terms* and *Caveat Emptor.*

Methods of Appraisal

In "Valuation of Common Stocks" and in *Part One* of "Stock Values and Stock Prices" (*The Financial Analysts Journal* of February 1959 and May-June 1960), we discussed at great length the theoretical bases and the practical techniques of our method of appraisal. Collapsing the thinking and the mechanics into capsule size, we may remark that they stem from the basic principle of "present worth." This concept is scientifically endorsed for its theoretical soundness. It is also increasingly used for practical financial objectives, such as proposed acquisitions by corporations of other companies or individual pieces of income-producing properties.

An essential characteristic of our method consists in complete elimination of any consideration of price either by its direct personal appearance or an insidious backdoor smuggling in the shape of innocent looking price-earnings ratios—a concept second to none in its ability to muddle the clarity of economic thought. By dissolving its corpse in the sulphuric acid of complete critical rejection, we avoid circular reasoning and achieve an unadulterated standard of value instead of a yardstick which remains subservient to changes in the quantity it is alleged to measure.

Another vital feature of our valuation of common stocks is the overcoming of a previously inescapable necessity. The self-same equity used to be split into two artificial and, in reality, non-existent parts, of which the second represented an imaginary sale price determined by recourse to an arbitrary price-earnings ratio. This introduced a measure whose size was extensible or collapsible at will.

Finally, the thorny question of the rate to use for discounting future payments is not enmeshed, in our work, in either the historically changing yields from riskless investments nor in the assumed future rates of return acceptable to individual or collectively representative investors after comparison with other returns available from other investments with commensurate risks.

Without further ado, we may now assemble in *Table I* some valuation data and the resulting schedules of investment values of the Dow-Jones Industrial Average and its 30 component stocks. In *Part Two,* two tables were used for this purpose. Some of the historical information they contain may be still referred to in con-

sulting *Table I* in *Part Two*. Much can also be read from the charts on *Figures I - VI*. But for a reappraisal of the same 30 stocks, based in many cases, on substantially equivalent data, it seemed justified to condense into a single table the two separate exhibits of *Part Two*. To do so, we had, among other things, to omit showing investment values projected for 1965. However, since values move along secular trend lines, the 1965 estimates can be quite readily interpolated between the values of 1961 and those of 1970.

THE OBJECTIVE

We must be clear about the aim we try to attain in estimating investment values. We seek to find for each stock a single figure in which is focused all the currently accessible information and judgment concerning the company's management, products and prospects that the best equipped and most intelligent research can produce. All these factors affect and may be expressed as part of the over-all estimates of future earnings.

In working on this reappraisal, we consulted with the experts of the organization with which we are associated. We also sent out sets of comprehensive worksheets to several personal friends in charge of large research staffs. Thus, the estimates of earnings and of their growth rates shown in *Table I* represent the composite view of the most qualified professional judgment.

Investment Paradox

A comparison of 1961 investment values of *Table I* with the closing prices of the same stocks on February 1, brings forth an almost irresistible urge to seize one's pen and start drafting without delay a "Red Light" message. Many of its component stocks—and the Dow average itself — are overpriced. It seems difficult to justify a constructive policy towards common stock investments. At least, in the case of numerous DJIA stocks, the buyer is not getting his money's worth.

However, outside the narrow circle of "blue chips," there are plenty of other stocks which, by identical valuation tests, are underpriced. "Blue chips" are not necessarily at all times the most desirable of all possible investments. It is undoubtedly because of the inclination of so many people—and institutions—to buy names rather than values that such large numbers of name stocks sell at inflated prices.

Market prices of more plebeian stocks may also stray, sometimes for protracted periods, from their investment values. Preference for certain industries and managements, and disfavor or lack of experience with others, may, among other factors, delay for a long time an equalization of capitalizers. But, sooner or later, the force of habit will yield to the strength of cash.

In several of our previous studies, including *Part Two,* we developed a philosophy and technique of *Price Orbits*. New readers may find it helpful to refer to them.

There exists, however, at present a different and stronger reason why prices of many stocks may float for some time above their investment values.

We think that the cyclical upswing in stock prices which began 13 weeks ago is in its early stage. We believe that the over-all economic fluctuations are unitarian in nature. They consist nevertheless of countless strands of individual factors following each other in time with different—and changing—leads and lags. The advantage of the analyst of stock prices resides in the fact that this particular cyclical time series usually precedes the turning points of most of the other factors. Besides, methods of analysis exist—such as those used in "Green Light"—which can help to locate the reversal areas of cyclical trends of stock prices.

The structural changes in the internal condition of price and volume relations will need critical watching throughout the unfolding of this bull market. They are likely to furnish the earliest indications of a waning of its solidity and strength and should provide us with sufficient time in which to readjust our investment policies.

Unlike most of its predecessors of the last two decades, the current bull market did not start from a position of undervaluation. The DJIA average, for example, just barely dented its fair value at the low of the decline, and this happened also to many individual stocks. As the bull market progresses, an increasing number of stocks will be selling well above their investment values.

It seems difficult to discourage investors from participating in this powerful market whose main driving forces are psychological in nature. But let us try not to miss the signs when stock prices will be entering once more an area of cyclical reversal. In the meantime, to keep closer to earth, investors should not neglect a constant strengthening of their portfolios by increasing the proportion of holdings of realistically valued stocks.

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Common Stocks and the Short Term Interest Rate

by Harold B. Elsom

"I hate him . . . for that in low simplicity . . . he brings down the rate of usance here with us in Venice."—SHYLOCK,

The Merchant of Venice
by WILLIAM SHAKESPEARE

Every task and every work can yield a moral, an insight, or a useful pattern of thought. So with the study of interest rates.

That one should let his property or his money to the use of another without some usance, charge or fee, has always been so contrary to the nature of Man that no effort, whether it stemmed from moral, religious, political, or other origin, has ever been effective in suppressing the interest charge. Where the phenomenon exists legally, it does so as an object of disputation; where it is prohibited, borrower and lender contrive its continuance illegally.

The problem of interest has been constant throughout the long way that Man has come, present even in those days when a self-respecting Roman, not having access to the gadgetry that we enjoy, might, so Pliny relates, resort to his banker for funds wherewith to maintain or increase his status through the purchase of humans. Since average prices were about four thousand sesterces (mayhap $750 in current U. S. dollars) and sometimes ran as high as 700,000 sesterces (the better part of $200,000) for a first class grammarian such as one Dahpnis, bought by a certain Marcus Scaurus, a worthy establishment or entourage called for considerable capitalization.

For noble needs such as these, as well as for commercial purposes, the Roman banking house was ubiquitous, handling checking accounts, interest bearing savings accounts, clearing checks, bills of exchange and notes, effecting collections, and lending money at interest to individuals and partnerships. Rates, then as now, exhibited fluctuation; sometimes from natural economic causes; sometimes from tinkerings with the money supply; and again from political fiat. The range was little different from our own. The profitable Egyptian campaign of Augustus caused a decline to four percent and less. At the time of Constantine a good borrower had to pay twelve percent, the legal limit, for money. In Egypt, in Greece, in Syria there was interest. There were money changers and usurers in the Temple at Jerusalem.

Everywhere and at all times there was and is conflict —what the rate should be and whether interest should be countenanced in law at all. At times, opposing views have been stated in terms of classic contention, as in the caption of our article; at others, in the verbiage of a Communist Manifesto or as a paragraph in a political platform. It is present, though not explicitly, in the deadly interchanges between America and Soviet Russia.

What Are a Man's Rights?

For at the heart of the matter lie the questions: What right has a man to do what he will with his own? To make a profit? To obtain fixed income from his savings? Is such right unlimited? Must it be balanced against the rights of others? How?

Thus we come to our useful pattern of thought: It would be strange indeed if there were no relationship between short term interest rates and common stocks, both phenomena being so intimately interlaced in the propensities and philosophies of Man.

It has long been known that some sort of tie does exist. Despite this fact it has been only occasionally that those who interest themselves in U. S. Treasury Bills, Notes, Certificates, and private short term paper—as we do here—have disciplined their attention in this direction. Efforts rather have been pointed toward determining tightness or ease in the money markets from data derived from U. S. Treasury operations, Federal Reserve activities, bank deposits, bank loans and the like. This is proper, for in the long run these things are of greater moment in the economic scheme than those which we shall describe.

Yet, while these methods explain the environment in which money may be had or lent, their narrative falls short of the full story. Something is lacking, something capricious. Conventional monetary factors are institutionalized, too indirectly human; men are least human when they wear institutional or governmental garb. Even the merciful human heart thickens with a coating of policy, technicality, procedure, and expediency when it performs its good works through large foundations or government instrumentalities. Not so the stock market. Here charity and greed, simple thrift, love of chance, impulse, and calculation mingle to provide direct economic expression of human foible and virtue. Institutional investment committees, themselves, take on

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mortal faults when they turn to common stocks. Ordinary money market studies do not include the human element; the interest rate, being more realistic, does. It is therefore captious, and difficult for the understanding to grasp. Reference to common stocks may provide a part of the answer.

We know, for instance, that there is an interchange of funds between the bond markets and the stock markets. Stock traders and investors become indecisive or bearish. They then withhold funds from stock investments. These withholdings may then be augmented by cash derived from stock sales. Some of these moneys find their way into highly liquid short lived obligations. More simply, money is extracted from equities to become a plus quantity in bond trading. At intervals, the process reaches magnitudes which cause unexpected easing of money rates though basic conditions remain unaltered.

Liquidation a Vital Factor

The converse also occurs. Reserves in the form of short term paper may be liquidated for the purchase of stocks, shrinking demand in the money arena with a consequent upsurge in interest levels not hinted at in the money and banking structure.

In a sense, we may have an unannounced guest at the money table—one of fickle appetite as likely to disgorge as to consume, and oblivious the while of the convenience or desires of regular habitues such as banks, insurance companies, and others who prefer the proceedings to move with considered decorum. Likewise, our guest is troublesome to mine hosts, the Treasury and the Federal Reserve System, since his arrivals and departures are always surprising and his appetite or revulsion not subject to estimate. We might call our guest "Mr. Investor Preference" and reiterate the known fact that investor preference is a part of the money problem. All else remaining constant; i.e., bank loans and deposits, gold reserves, public debt, reserve requirements, etc., logic still postulates that interest rates can move through the operation of investor preference, actuated by stock market attitudes alone.

These familiar notions—we call them that because, so far as the author knows, they have not been substantiated by formal proof—should be rendered concrete. Measurements should be made, relationships established, if they are to be useful. More theory is needful as a preliminary.

How can we say that sums of money are being removed from stock investment or added to it when we know that every transaction is born of equality; i.e. a purchase on the one hand and a sale on the other, both based on an identical money figure? A balance of buying (additional investment) and selling (subtracted investment) would seem to condition the occurrence of any transactions at all. The answer, of course, is that purchases and sales, within themselves, do transpire only when there is equality between buying and selling. The money involved stays in the banking system, merely being transferred from one deposit account to another. (We omit here any expansion or contraction of the money supply brought about by credit activities. These are not germane to our theme although they do contribute to the environment in which it functions).

The same stock also remains in existence and unaffected, the only consequence of our hypothetical sale and purchase being on the part of the stock transfer agent. For our limited purpose, both money supply and stock supply remain the same, identical before and after trading.

Sequence in Ownership

Such is not the case if we expand our thought to include the ideas of sequence and results to ownership. Stated succinctly: the quantity of stocks and the quantity of money remaining static, price fluctuations and monetary consequences ensue from sequence in ownership.

Consider: There is but one share of stock on the New York Stock Exchange. It is bought by "A" for $100. There is $100 invested in this stock. "B" thereupon buys it from "A" for $120. "A" takes his $120 and acquires a Treasury bond (they are remarkably cheap in our illustration). "B" has replaced "A's" $100 and added $20. "B" now sells to "C" for $80. At the end of these events there is only $80 in common stock investment, $40 ($120 - $80) having been extracted. Where did it go? "A" invested it in bonds. The only remaining dollars in the market are the $80 expended by "C" or, we may say, his ownership is measured by $80. We stipulate further that our alphabetical trio all carried checking accounts at Ideal National Bank. Clearly the bank's complacency is undisturbed; its deposit total has continued undiminished throughout. Also, the quantity of stock remained at one share. Let us extend our suppositions. No change took place in the interim in Treasury bonds outstanding, in gold reserves, bank loans, or any other monetary phenomena. Still, in theory, we witnessed a substantial change in security prices.

Our imagination generates one more reflection. Had "A" decided to buy the stock back, he would have found himself in competition with "C." In that case, "A" and "C," both being bullheaded specimens, the price might well have exceeded $80, perhaps $120. This coerces the view that if our attention is focused on short term interest rates, a prime object of our search is the seller of stocks and what he does with the proceeds of his sales. If he does not reinvest quickly in equities he may come into the money mart as an unexpected buyer, tending to reduce rates.

A Parable of 'No Change'

A parable will help: Let us liken the process to a population movement. Adjacent to the city is a tract of land, Lovely Acres, well forested, marked with low swelling hills and a rivulet. In the city the citizens occupy vintage dwellings. Lovely Acres is owned by one man, a certain John Doe, who wishes to divide his lands into parcels and lots for sale to the townfolk. None will buy; there is nothing on Lovely Acres but

trees—no schools, no stores, no neighbors. It is too distant, so they say, from their labors.

Doe resorts to seduction. He builds a beautiful modern home on a prominence near the city. He induces several outstanding citizens to do likewise through the companion lures of cheap land and hope of profit to come about by their participation in the project. He doubles the prices of the lots so that all may know that his prospective purchasers will have taken another grueling step toward gracious living and higher status when they buy and build. At last, thick and fast, come many townsmen, perfectly willing to transfer ownership of their bank deposits to Doe, et al, for parcels of land. Prices move up. What was $100 an acre becomes $10,000 an acre.

What happened? In simplest terms, the population or ownership of Lovely Acres increased—no more. At first one man owned it at $100 per acre. Later, hundreds own it at $10,000 an acre. Meanwhile, much real estate in the city suffered declining values although the town bank noticed scarcely a change in its deposits. Similarly does our stockholder population or ownership wax and wane.

It is possible then to have sizeable interchanges of ownership of securities and deposit balances with important effects on interest rates, all traceable to stock market activity and not wholly related to basic money supply nor to basic money demand. Our studies persuade us that the principles outlined here do operate in practice, and that the multiplicity of transactions on the exchanges in no way impairs their functioning. To the contrary, multiplicity intensifies them.

There are a variety of analytical techniques which can be used to bring their workings into relief. Space limitations have compelled us to devise a shorthand version—far from the best—but susceptible of easy and brief exposition. It consists merely of volume and price change comparisons of the Dow-Jones Composite Average. The weekly closing figure is computed back to the actual average price of the component stocks. The difference from the preceding week's close; i.e. the gain or loss, is then multiplied by the volume for the intervening week to give a useful (certainly not accurate) dollar estimate which is assumed to have been added to or subtracted from stock investment. The debits and credits to the market are then reduced to a moving six weeks' net balance. A chart is appended showing the movement over a recent period as is a schedule recording the figures used for the chart. Only significant figures were used and these in fact bear little resemblance to true dollar quantities involved. They do, however, provide a chart picture very similar to charts derived from more complex and more accurate methods. Progress above the zero line on the chart denotes accretions of funds by the stock market. Falling toward or below the zero line signifies removal of funds.

Interpretations Vary

The chart also reflects the movement of short term interest rates. This was obtained by random selection each week of ten U. S. Treasury Bills, Certificates, Notes or bonds having maturities ranging in the three to fifteen month bracket.

Interpretation varies in line with purposes and needs. It is important to remember in tracing through the remarks to follow that our thesis is not that the thing we are witnessing controls interest rates, but that it is an influence which can be isolated for study. Better known monetary influences can override and obscure the pressures we describe. Nonetheless, the common stock movement can always be seen. On occasion, when money conditions are vulnerable to it, it can produce a spectacular and, to judge from the mass of money market analysis which crosses the writer's desk, wholly surprising reversal of interest trends. The major turns of the last quarter of 1957, mid-1958, and the close of 1959 are examples.

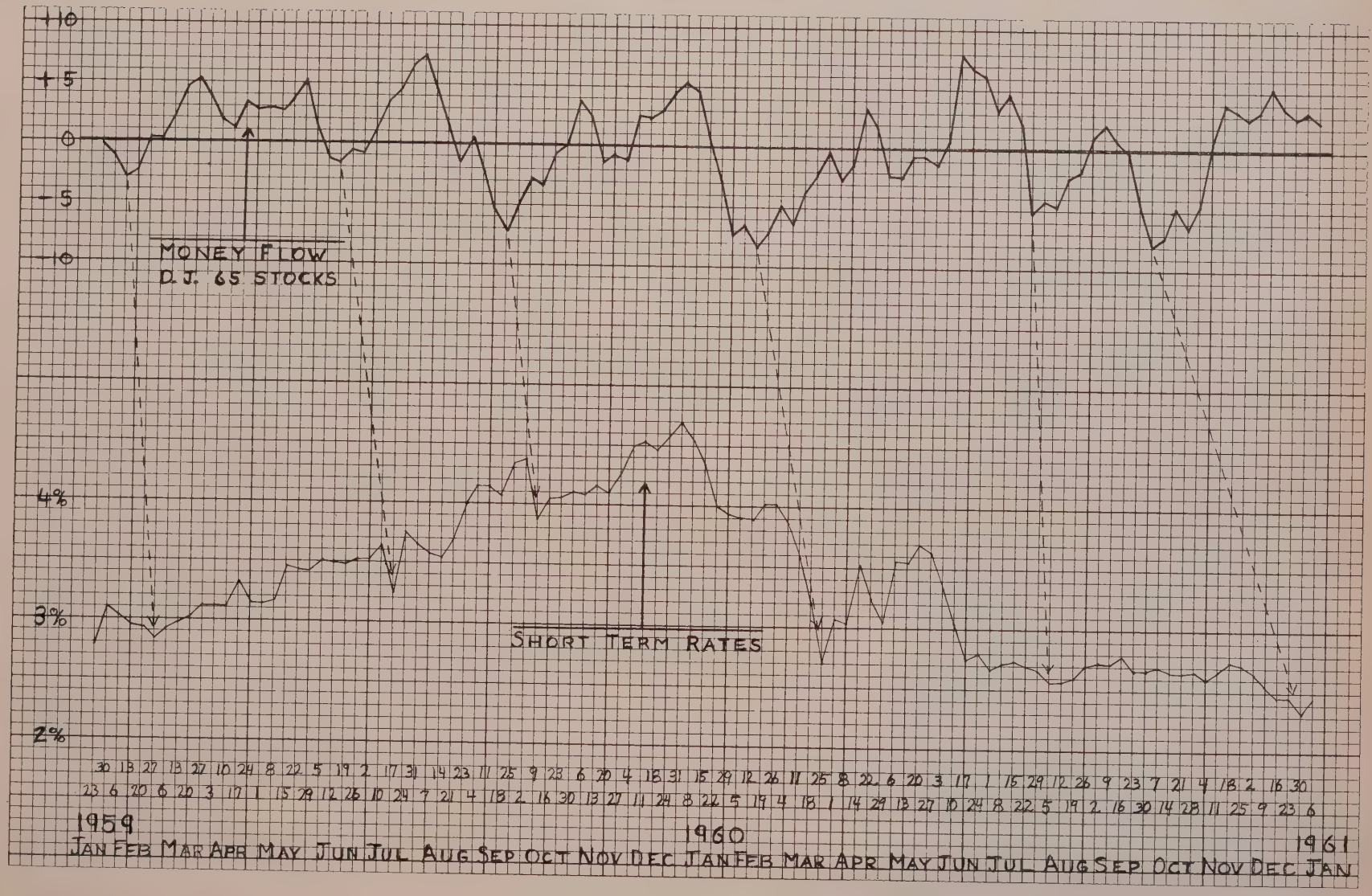
The accompanying chart opens in 1959, mid tilt of a strong upward movement. This is interesting in that the stock market recorded contrary influences at several junctures despite the strength of the trend: February 6, June 12, and September 18. We have drawn dotted lines pinpointing the subsequent minor drops in rates at February 27, July 17 and October 9. These points support our statement to the effect that the stock market influence can be isolated even at those times during which it is trampled underfoot by more massive currents in the money stream.

Look also to the fact that the stockline was predominantly above the zero line both in point of degree and duration until the last quarter of the year and that the peaks sharply accentuated the existing upward trend in rates. Intriguing, too, is the tendency of the stock movement to precede the money movement.

Beginning with the incisive extraction of funds from stocks shown by the skidding of the stock line culminating on September 18, the line shifted to a tenure predominantly below the zero line, both in point of time and degree. Later, movements above the zero line showed that accretions of funds of stocks were on a much smaller scale than had been the rule for many months past, not equal in fact, to the withdrawals marked by the August 21 to October 23 sequence.

Thus began a new monetary situation. At this point certain monetary factors were vulnerable. The abrupt extraction of cash from stocks of December 31, 1959 to February 12, 1960 was a field day for equity control of money rates. It is then that we see interest charges tumbling from well nigh 5% to around 2.7% on March 18, 1960. A new major trend in interest rates had been suggested by the dimensions of the August 21 - October 23, 1959 course of the stock line, had not been vitiated by the abortive rise to December 31, 1959, and had been confirmed by all that transpired later.

We may still see the stock market impact on rates although it be contrary to and swallowed up by a new set of basic money conditions. Though easier money conditions prevailed (comparatively speaking) we see a long upward struggle of the stock line winding up with a trivial penetration of the zero line on April 14, 1960.


+10
+5
0
-5
-10
MONEY FLOW
D.J. 65 STOCKS
4%
3%
SHORT TERM RATES
2%
30 13 27 13 27 10 24 8 22 5 19 2 17 31 14 23 11 25 9 23 6 20 4 18 31 15 29 12 26 11 25 8 22 6 20 3 17 1 15 29 12 26 9 23 7 21 4 18 2 16 30
23 6 20 6 20 3 17 1 15 29 12 26 10 24 7 21 4 18 2 16 30 13 27 11 24 8 22 5 19 4 18 1 14 29 13 27 10 24 8 22 5 19 2 16 30 14 28 11 25 9 23 6
1959
1960
1961
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN

Money Flow—Dow-Jones Composite Stocks
(000 omitted)

Date	Plus	Minus	6-Wk. Net Plus-Minus Balance
1/23/59		220.5	— 220.5
1/30/59		1207.1	—1427.6
2/ 6/59		1722.1	—3149.7
2/13/69	842.4		—2307.3
2/20/59	2838.1		530.8
2/27/59		105.5	425.3
3/ 6/59	1392.0		2037.8
3/13/59	1069.5		4314.4
3/20/59		799.5	5237.0
3/27/59		724.1	3670.5
4/ 3/59	1020.3		1852.7
4/10/59		893.5	1064.7
4/17/59	4067.2		3739.9
4/24/59		152.7	2517.7
5/ 1/59		394.4	2922.8
5/ 8/59		959.0	2687.9
5/15/59	2214.9		3882.5
5/22/59	447.3		5223.3
5/29/59	318.6		1474.7
6/ 5/59		2882.7	—1255.3
6/12/59		850.1	—1711.0
6/19/59	302.8		— 449.2
6/26/59	1868.4		— 795.7
7/ 2/59	2348.6		1105.6
7/10/59	2542.0		3329.0
7/17/59		1528.1	4683.6
7/24/59	958.7		6492.4
7/31/59	1287.2		7476.8
8/ 7/59		765.4	4843.0
8/14/59		1103.6	1390.8
8/21/59		324.5	—1475.7
8/28/59	539.1		591.5
9/ 4/59		1958.9	—2326.1
9/11/59		2088.4	—5701.7
9/18/59		2485.1	—7421.4
9/25/59	1569.9		—4747.9
10/ 2/59	1819.8		—2603.6
10/ 9/59		191.9	—3334.6
10/16/59	824.8		— 550.9
10/23/59		1635.5	— 99.0
10/30/59	1195.0		3581.1
11/ 6/59	241.6		2252.8
11/13/59		1793.5	—1360.5
11/20/59	288.9		— 879.7
11/27/59	584.8		—1119.7
12/ 4/59	2129.0		2645.8
12/11/59	1030.5		2481.3
12/18/59	883.6		3123.3
12/24/59		562.3	4354.5
12/31/59	964.1		5029.7

Money Flow—Dow-Jones Composite Stocks
(000 omitted)

Date	Plus	Minus	6-Wk. Net Plus-Minus Balance
1/ 8/60	260.7		4705.6
1/15/60		2284.7	291.9
1/22/60		2198.6	—2937.2
1/29/60		3413.4	—7234.2
2/ 5/60	256.2		—6415.7
2/12/60		650.8	—8030.6
2/19/60	1113.6		—7177.7
2/26/60	314.8		—4578.2
3/ 4/60		4349.3	—6728.9
3/11/60		339.3	—3654.8
3/18/60	1619.2		—2291.8
3/25/60	963.9		— 677.1
4/ 1/60		902.9	—2693.6
4/ 8/60	1757.4		—1251.0
4/14/60	81.4		3179.7
4/22/60		1760.4	1758.6
4/29/60		2244.2	—2104.8
5/ 6/60	788.3		—2280.4
5/13/60	749.2		— 628.3
5/20/60	1927.2		— 458.5
5/27/60		581.5	—1121.4
6/ 3/60	305.2		944.2
6/10/60	5095.6		8284.0
6/17/60		562.4	6933.3
6/24/60	37.5		6221.6
7/ 1/60		610.7	3683.7
7/ 8/60	613.0		4878.2
7/15/60		2104.8	2468.2
7/22/60		2588.7	—5216.1
7/29/60	523.8		—4129.9
8/ 5/60		289.1	—4456.5
8/12/60	1817.0		—2028.8
8/19/60	759.0		—1882.8
8/26/60	784.3		1006.3
9/ 2/60		1339.1	2255.9
9/ 9/60		815.8	916.3
9/16/60		1543.0	— 337.6
9/23/60		2731.5	—4886.1
9/30/60		2054.5	—7699.6
10/ 7/60	1193.4		—7290.5
10/14/60	1174.4		—4777.0
10/21/60		2323.1	—6284.3
10/28/60	100.4		—4640.9
11/ 4/60	2480.5		571.1
11/11/60	1310.4		3936.0
11/18/60	398.8		3141.4
11/25/60	613.9		2580.9
12/ 2/60		1567.8	3336.2
12/ 9/60	2016.9		5252.7
12/16/60	1106.4		3878.6
12/23/60		79.3	2488.9
12/30/60	987.4		3077.5
1/ 6/61		212.3	2251.3

This emphasized the correctional rise in rates topping out on May 20, opposite to the underlying trend. The stock line thereupon headed downward until May 6, 1960, engendering a fall in rates to their then lowest point on August 5. The rise of the stock line to June 10, though high, did no more than bend the interest line toward a horizontal course. This is understandable if we weigh the long period of money removal expressed by the chart between January 15, 1960 and July 15, 1960 against the smallish duration of additional investment of only a month and a half, from June 3 to July 15, 1960.

A trifling swell in stock investment to September 2, again against prevailing interest trends, produced an upward ripple in rates ending on September 16. Money was again drawn from stocks aggravating the underlying trend of money rates to a low of something like 2.30% as of the date of this writing, January 6, 1961.

Now let us look over the entire chart in perspective. It seems to the author that the stock line delineates, without question, a preponderance of additional stock

investment from its beginning until September 18, 1959, followed by a picture of fundamental change or turnabout from September 25, 1959 to January 15, 1960. Thereafter, especially if we give relative weight to the duration, as well as extent, of the intervals spent below the zero point we have a sketch of dollars wending their way out of stocks.

Our thought should be interrupted here for an aside: Analytical effort has a *raison d'etre* beyond the amusement or fascination of its perpetrator. Its true function is to aid in the decision of what real, not fancied, securities to buy or sell today (not on some nameless date) and for dearly beloved, spendable dollars, not hypothetical paper figures. With this old, old thought which emanates repeatedly from non-analysts, we return to our chart. What does it have to say now?

The giddy altitude of the stock line attained on June 10, 1960, though ephemeral, contained an augury. It emphasized that investor appetite for stocks was dormant only for a time, that it could be awakened easily. Here, though the trend in interest rates was still down, began the slow process of reversal. Later declines began to lack steam. The present persistence of the stock line above the zero line (it should be remembered that the amount of money being added to stocks grows larger with a horizontal movement as well as a vertical one) says that interest will turn up within a relatively brief period. If this is confirmed by a weak downward movement then the change will have been basic.

How effective is this approach? Within its limitations, quite satisfactory if used in the right hands and understood in the right way. By the right hands we mean if it is employed by persons versed in the use of conventional money market data. The massive fundamentals are basic. They can overweigh, but not obliterate, the workings of the principles described. It is when, as it sometimes happens, money fundamentals are vulnerable that stock market attraction or repulsion tips the seesaw. Needless to say, identification of such vulnerability is something else again.

Again, as we have remarked, the need for brevity has compelled shorthand exposition. While the Dow-Jones Composite produces figures useful enough for this presentation—and we have used them as they fall, so to speak—they are neither the most useful nor the easiest to interpret. Nor are they dollar amounts; thus they lose comparability with dollar sums from other sources. They parallel only roughly what actually happens. Necessary adjustments for stock splits, substitutions, and the like impede accuracy. The figures we derived for this article are appended. Lest some "auditor" call our hand, we confess that we have, on several occasions, neglected to note a change of divisor for the average until a week or two after the event. Very likely we have committed other peccadillos. If so, let them be on our head; they would not have affected results.

Our suggestion to anyone interested in this sort of investigation would be to select a list of 50 or more stocks and to develop his total dollar figures from individual consideration of the issues. The stocks used should be chosen with scarcely any other criteria than large normal dollar volume of trading. But small weight should be given to diversification or character since it makes no jot of difference what their outlook may be as investments. This handling may be expected to give not only a clearer picture than the one we have used but a more decisive one as well.

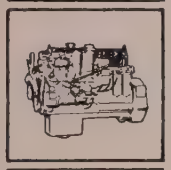
A caution at this point: this study of stocks has been a means to an end. It has been directed at interest rates, not stocks. We have seen similar operations used for stock market prediction. Used in that way, they seem to us to fall short of the mark. We think the stock market is the aggressor. Investors first use the funds they have to purchase stocks, then they sell notes and bonds in order to buy more. Later they devote investable funds to short term securities, only thereafter disposing of stocks and placing proceeds in bonds. First the movement of money into or out of stocks, then the repercussions in interest rates.

Summing up: Interest rates have their origin in three great overlapping sectors of our economy: the money and banking structure; business and consumer activities; and investor preference. To overlook the last is to ignore the most truly human, and therefore the most volatile, aspect of the problem. The shifting of dollars between stocks and bonds, if and when it occurs in fact, should be confirmed by study of banking and business data. Appropriate treatment of figures from these sources should render it visible since the coin has two sides.

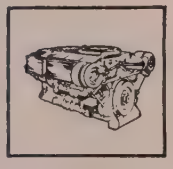
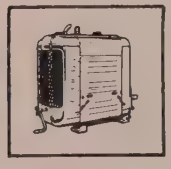
Finally, these remarks should be construed in the light of their limited purpose. We sought to do no more than to reinforce a fact already known—that there is a relationship between common stocks and the interest rate—to isolate its influence so that it might be observed to be always present, and to show that it can, at some junctures, constitute the marginal or decisive force.

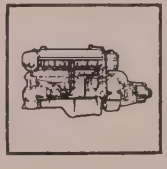
facts and figures

FROM THE 1960 ANNUAL REPORT





HIGHLIGHTS

Despite adverse business conditions, Continental Motors Corporation and consolidated subsidiaries, Gray Marine Motor Company and Wisconsin Motor Corporation, had net sales of $138,094,193 in the year ended October 31, 1960, only slightly below the 1959 sales of $139,946,152, and well above the level of each of the previous three years.

Reflecting intense competition in all markets and heavy development and start-up expenses on new models during the year, net income for the fiscal year 1960 amounted to $1,417,759, compared with $2,637,475 a year earlier.

Important reductions in costs are being effected through the installation of new, modern production machinery. Controls are being improved and accelerated with automated data-processing equipment for certain office procedures.

A cross-licensing agreement covering aircraft piston engines has been signed with Rolls-Royce Limited, of England.

Substantial progress was made in research and development, and a number of new products are close to production scheduling. These include the LDS-427 Hyper-cycle multi-fuel compression-ignition engine for 2½-ton military trucks, and a new compact inboard marine engine with an outboard propulsion assembly.

Branch and distributor-dealer organizations were strengthened during 1960, especially in the growingly important West Coast market. Training programs for distributors and dealers were expanded.

Foreign operations continued at a good level during the year.

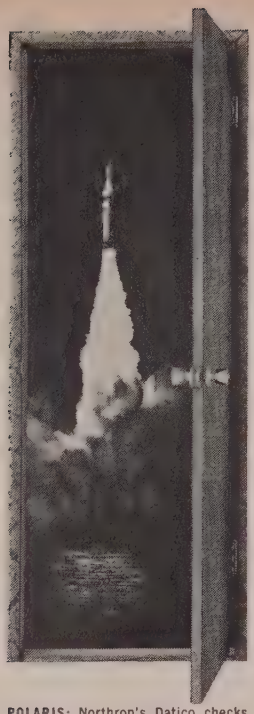
With a number of promisIng new models, expanded marketing activities and improved plant and equipment, Continental will push forward vigorously to increase its share of the market as general business begins to improve. Research and development projects currently under way will require substantial expenditures, but should lead to further growth in the years ahead.

STATISTICS

Fiscal Years Ended Oct. 31	1960	1959	1958	1957	1956
Engine output (horsepower)	10,743,003	12,129,875	10,231,837	10,549,655	10,783,043
Net sales	$138,094,193	$139,946,152	$131,415,279	$135,610,890	$125,116,269
Net earnings	$1,417,759	$2,637,475	$3,536,528	$3,583,301	$1,604,924
Net earnings per common share	$0.43	$0.80	$1.07	$1.09	$0.49
Dividends per share	$0.60	$0.60	$0.55	$0.35	$0.25
Current assets	$56,700,008	$59,657,338	$56,101,397	$64,454,365	$59,262,735
Current liabilities	$22,912,690	$25,005,195	$21,289,109	$30,598,007	$28,304,638
Net working capital	$33,787,318	$34,652,143	$34,812,288	$33,856,358	$30,958,097
Ratio of current assets to current liabilities	2.5 to 1	2.4 to 1	2.6 to 1	2.1 to 1	2.1 to 1
Long-term debt	$1,640,000	$2,000,000	$2,355,000	$2,480,000	$2,760,000
Property, plant, and equipment (net)	$16,140,139	$16,392,626	$15,733,097	$16,223,841	$16,547,581
Stockholders' equity	$49,374,586	$49,936,827	$49,279,352	$47,557,824	$45,129,523
Book value per common share	$14.96	$15.13	$14.93	$14.41	$13.68

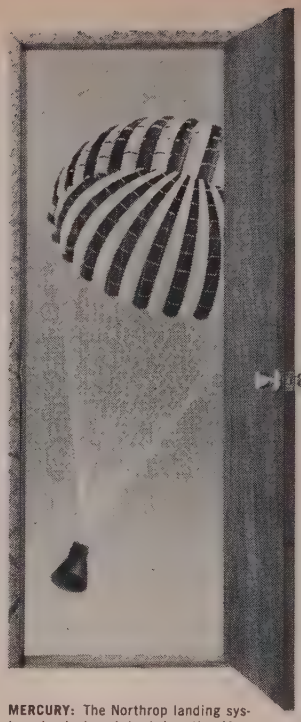
Continental Motors Corporation

MUSKEGON, MICHIGAN



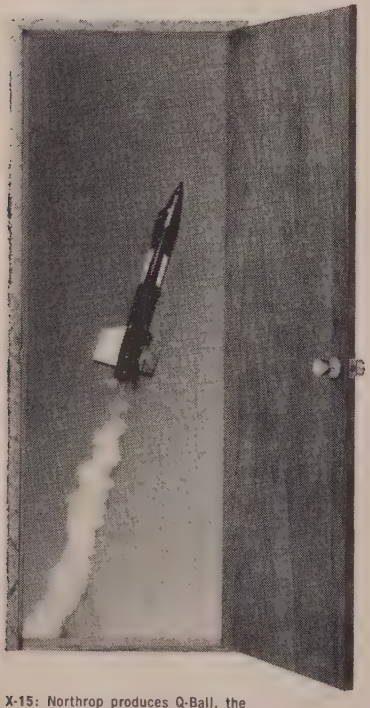
POLARIS: Northrop's Datico checks out Polaris at all levels of maintenance and operation.

SKYBOLT: Guidance and navigation systems are being developed by Northrop for this new and highly secret air-launched ballistic missile.



MERCURY: The Northrop landing system is designed to bring the Mercury astronaut down safely.

Northrop is now active in more



X-15: Northrop produces Q-Ball, the flight angle sensor for safe re-entry of X-15 and other aerospace vehicles.

AERODYNAMICS: Northrop's Laminar Flow Control technique is designed to greatly increase aircraft range, flexibility, cargo and passenger capacity.

TITAN: Northrop supplies complete technical and industrial management to activate the T-2 Titan missile base.

Northrop Corporation, Beverly Hills, California • Divisions: Norair, Nortronics, Radioplane, Northrop International

HAWK: Northrop produces airframe components, ground handling and launching equipment for this air defense missile.

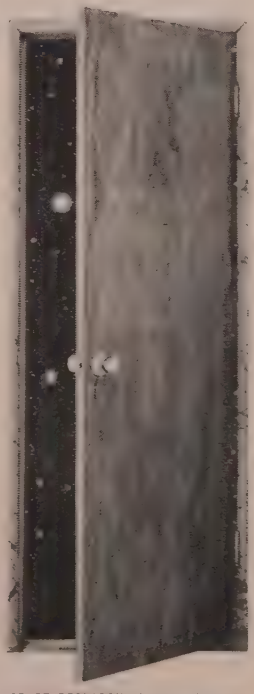
COMMUNICATIONS: Northrop designs the trans-Pacific Scatter Communications Network and other worldwide communication systems for U.S. and free world governments.

T-38: World's first supersonic twin-jet trainer is built by Northrop for the United States Air Force.

than 70 important programs

TARGET MISSILES: Northrop has produced more than 50,000 electronically-controlled aerial targets, and surveillance drones.

COMMERCIAL METAL PRODUCTS: Northrop produces aluminum architectural shapes for many important industrial and commercial buildings.



SPACE RESEARCH: Northrop's accelerated space research programs reach into such advanced areas as maneuverability, rendezvous, space vehicle maintenance, space probes, and the survival of men in space.

Subsidiaries: Page Communications Engineers, Inc., Acme Metal Molding Company.

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Tomorrow's Investment Information Tonight

Computers Seen as Selectors for 'Best Stock Buys'

by Lawrence W. Conant

EVERY COMPANY WITH STOCK BOUGHT AND SOLD by the public generates two distinct sets of money flows. One set is made up of money intakes and out-pourings into and out of the company's cash drawer, bank account, and other devices for controlling monetary inflows and outflows. Inflows are made up largely of cash receipts, and payments received for accounts receivable, notes receivable, and other similar indebtedness to the company. Money outflows occur when payments are made in cash or by check, for example to meet payrolls or to reduce accounts or notes payable, or other similar forms of indebtedness.

The second set of money flows takes place when the stock of the company is bought and sold, for example on either the New York Stock Exchange or the American Stock Exchange. Oversimplified, a would-be buyer of 100 shares of the company's stock approaches with cash in hand the specialist on the floor of the exchange who handles this stock. The buyer has in mind the number of shares he wants to buy. He may or may not have in mind also the price he is willing to pay, depending on whether he is buying "at market," or by placing his order at a limiting price.

The specialist has (in his book relating to this particular company's stock) information which *sooner or later* presumably makes it possible for him, so to speak, to locate a seller of the number of shares specified, willing to sell these at a price which meets the conditions set by the buyer. When the exchange takes place, money "flows"—that is, passes—from the buyer to the seller, and the block of stock being traded passes from the seller to the buyer.

In actual practice, of course, the transfer of stock ownership, on the books of the company, for instance, may not occur for some time; and this delay, for our purposes here, has no significance. On the other hand, even a slight delay in discovering a seller willing to release his stock under conditions imposed by the buyer, if this delay represents seeking and finding a seller willing to trade only at a *different* price from that of the preceding sale, may be significant. For it is this "seeking and finding" part of the total process of generating these money flows which operates to move the price of the stock up or down.

Lawrence W. Conant is a supervisory airways engineer with the Federal Aviation Agency and a member of The Washington Society of Investment Analysts. Born in France, Mr. Conant holds an engineering administrative degree from the Massachusetts Institute of Technology. Currently he is also teaching a course on Portfolio Planning for the Federal Aviation Club. Mr. Conant is also the inventor of the "Graphax" investment technique.

Analysis of Money Flows

At present, the universally accepted practice is to report and analyze these two sets of money flows separately. This practice has led, inescapably, to two distinct approaches to the overall problem of investing funds in the stocks of companies. One of these, often identified as the "fundamental approach," makes use of information derived from and largely relating to the money flows generated by the company. The other, frequently called the "technical approach," is based on information relating to the money flows which occur in connection with buying and selling each company's stock.

Each of these two approaches, for each company, involves vast quantities of highly complex information. Consequently, the merging or integration of these two enormous bodies of data, for even a single company—and even making use of our most modern computers—is an Herculean undertaking. At least one large brokerage firm, a few of the largest mutual-fund and insurance investment groups, and several financial services have, within the past year or two, undertaken more or less ambitious research programs in this area. These may or may not yield handsome returns on the outlays invested in them.

But whether they do or not, a key factor is being overlooked which, if taken into account, could multiply returns and fractionalize cost. This is the use of computers in integrating the information relating to both fundamental and technical data for each company, simultaneously, at the time such data become available. This truly-integrated fundamental-technical approach to the problem of selecting stocks for investment has never, so far as can be ascertained, heretofore been attempted.

The combined fundamental-technical approach will practically invert the roles of computers and human beings in making stock selections. Our present methods of reporting and analyzing the two sets of money flows generated by each company and by the trading of its stock on an exchange are based on the assumption that computer time is not readily available, but that the time of human beings is relatively plentiful. The new approach which will integrate both fundamental and technical information simultaneously, as they become available, will make exactly the opposite assumption: Computer time will be available at every step of the

process; time to be taken by human beings in making stock selections will be minimized.

Effects Seen as Far-Reaching

As in many other fields where the potentialities of using computers are just beginning to be recognized, the effects of inverting the roles of computers and people in the field of stock selecting are likely to be far-reaching. This is technological advance applied to one of the basic problems of our economy. The brokers, mutual funds, insurance companies, financial services, and computer-service groups which pioneer in this field should—and doubtless will—reap gratifying rewards.

Now, how can this integration of fundamental and technical information, simultaneously, be achieved? One approach—though not the one which ultimately is likely to be made—is to take the two distinct bodies of information, relating to fundamental and technical money flows, as they are now reported, and integrate them by computers; this can be done. For instance, a financial service aiming at providing its customers with more effective stock-selecting information—that is, information which would enable them to select more successfully stocks which would go up rather than down—with far less expenditure of time in making such selections, could provide what might be called a "Friday Night Best Buy" service. The moment the two major exchanges closed every Friday, high-speed computers would integrate the final quotations for all stocks being considered with other significant technical and fundamental information about these stocks, and would then select not only the one, two, three, four, or more "best buys," but also the specific information to be furnished customers about these stocks.

This specific and most pertinent information then would enable each customer to make his own final selection of the stock to be bought which best meets his individual needs, with a minimum expenditure of his own time. Such information could be furnished customers of the financial service, by wire, air-mail, or facsimile mail, depending on desires and geographic locations.

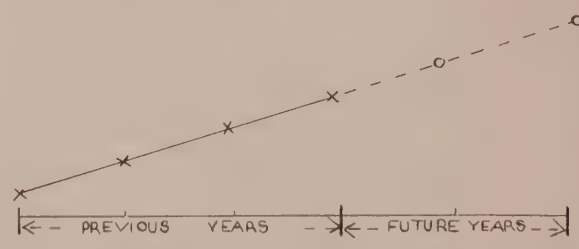
To integrate fundamental and technical information on a weekly basis, using present methods of reporting these two types of data, would require that high-speed computer service be made available, for example, to one or more progressive financial services. Further technological advance would be achieved when modern computers also would be used more extensively than at present in at least two additional areas to improve the selection of stocks: (1) in the exchanges where stocks are bought and sold; and (2) in the companies with stocks being considered for purchase or sale.

It seems likely that eventually—say within five or at the most ten years—computers will be used for this purpose also in these areas. Hence the technique described below for integrating fundamental and technical information has been developed on the assumption that computers can and will be used to improve our present methods of collecting and reporting stock-selecting data, as well as merely for analyzing, interpreting, and in the broadest sense presenting such information in a form which will conserve the time of users.

Use of Reported Information

To see how integrating technical and fundamental information at the exchange level can be achieved, we must go back to the basic concept of two distinct sets of money flows. To use computers most effectively, with a view to improving the overall process of stock selecting, we need to picture the money flows generated by any company as being—temporarily, at least—fixed or "crystallized." The underlying concept is that a specific company has reported, at the end of a reporting period such as a quarter, or a year, its sales, earnings, depreciation, consequent cash flow, and other related items of information. On the basis of these data, our concept further envisages certain projections of these quantitative data into the future. The entire body of such fundamental information, assumed to be fixed or crystallized for a specific company, might cover, for example, three years in the past, with projections for two years into the future.

Thus, for each item—such as cash flow, for instance—our concept of the fundamental information temporarily crystallized for the company presumably could be depicted graphically by six points on a chart, with time as the horizontal axis. When these six points are connected by a series of (arbitrarily straight) lines, using solid lines for time periods which are past, and broken lines for time periods in the future, as illustrated in accompanying graph, this gives us a graphic presentation of the type of fundamental information, assumed (for the time being) to be fixed, which we are discussing.



The suggestion to make use of certain company-reported data by the stock exchanges may startle some readers. A natural reaction may be that it is not the function of a stock exchange to obtain fundamental information from the companies listed on the exchange, and to pass on such information to those who use the exchange's facilities. On further consideration, however, it will become apparent that the exchanges already do, necessarily, obtain and pass on to people who are buying and selling stocks *some* fundamental information; for example, dividend payments.

As a matter of fact, practically all of the figures furnished to the public by a stock exchange are based on the fundamental information that the company has arbitrarily divided itself into a certain specific number of

parts, or "shares." It is these shares which are bought and sold on the exchange. And whenever a company changes the number of parts or shares into which it has divided itself, the exchange on which the stock of the company is listed has to adjust the figures relating to purchases and sales of this stock accordingly. So a key question is not whether or not an exchange will furnish the public with *any* fundamental information regarding its listed companies, but rather *what* fundamental information will be furnished.

No sooner is this key question raised than it becomes immediately clear that the fundamental information being obtained from corporations by our stock exchanges, and passed on to the public by them, was selected *before* computers became available. Today, now that the services of modern, high-speed computers are readily available to our stock exchanges, the total package of information which these exchanges are passing out to the public should be, and sooner or later undoubtedly will be, critically questioned. When this is done, not only the information itself but also its packaging will be found to have distinctly a "cracker-barrel flavor."

Supplementing Per-Share Data With Per-$100-Invested Information

In presenting an example of fundamental information relating to a specific company, temporarily fixed or "crystallized," the significance of the vertical axis to be used was intentionally omitted. Through relatively simple programming on high-speed computers, we need no longer be limited to reflecting the fundamental information for any company in terms of quantitative data based on the time-worn *per-share* concept. If it can be demonstrated—and it can—that fundamental information relating to each company will be more fully comparable with similar information relating to other companies if such information is computed on a *per-$100-invested* basis, then this should—and doubtless will—be done.

Supplementing the present, universally-accepted per-share data relating to each stock listed on an exchange with more-readily-comparable per-$100-invested information, can be done by computers either on a day-to-day basis or on a transaction-by-transaction basis. The former would give users of the information merely a supplementary newspaper-type of listing for each stock, not necessarily any more detailed or lengthy than the listings which now appear in *The Wall Street Journal,* for example, but in some ways quite different from these familiar quotations. An example of such listings, based on the *per-$100-invested* concept, will be given shortly; but first we may well examine the somewhat-more-intriguing possibility of providing such information on a transaction-by-transaction basis. This would give us a new form of "ticker tape."

Presumably, within a few years, the packaging of supplementary information to be provided the financial community through the use of our most modern high-speed computers—as well as the content of such information — will be fully modernized. This doubtless will mean that the supplementary "tape" which we have in mind here will not actually appear in the form of a tape at all. Instead, it will more probably take the form of compact "bundles" of information. Each bundle, as it becomes available in a matter of seconds after the stock sale takes place on the exchange, by the use of our latest types of computers, will represent a transaction in a single stock.

These new supplementary packages of information will no longer be designed, as our 19th century ticker tapes seem to be, primarily from the viewpoint of the difficulty and cost of *producing* the information. Our modern computers and related devices can now readily overcome obstacles of this character which were practically insurmountable only a few years ago. Rather, each package of integrated fundamental-technical, transaction-by-transaction information presumably will be designed primarily from the viewpoint of its *use*: for the convenience of and instantaneous service to the would-be investor or Financial Analyst; and to enable him to select, with a minimum expenditure of time on his part, the most profitable stocks to meet his individual needs.

Here is an illustration of what such a package of transaction-by-transaction stock-investment information might look like:

AMF — American Machine & Foundry

11/25/60 — 11:15

Vol. ($000):	% Change: (a):	(b):	Per $100 Invested: (This Stock; This Trans)	
(1) 7.85	0.17		Earnings:	4.14
(2) 551	+2.30	−1.10	Cash Flow:	7.50
(3) 12,321	+9.63	+5.45	Dividends:	1.78

Line (1): This transaction; or compared with last.
Line (2): During last 5 trading days.
Line (3): Year to date.
(a) This stock. (b) Group.

To perceive some of the advantages of this new form of transaction-by-transaction reporting, we must go back to the basic concept of the two sets of money flows to be reported. As has been pointed out, our presently-accepted techniques of reporting these flows is to do so through two quite separate channels of communication: company reports and stock exchange quotations. Today, each of these channels has its own set of symbols, and consequently, necessarily, its own language. One of these languages provides the basis for the fundamental approach to investment in stocks; the other, the basis for the technical approach. A basic reason why these two specialist groups are unable to merge their findings is that it is difficult for them to converse with one another for as a rule, they are scarcely on "speaking terms." No wonder; they don't talk the same language!

The new, computer-developed type of investment information here proposed resolves this key problem neatly. It provides a single set of symbols, from which a single language-in-common can be formed, to permit both fundamentalists and technical analysts in the field

of investments to express their common problems, and hence—eventually— to solve them more satisfactorily.

How does the new set of symbols do this?

One answer is that, through the rapid computations possible by using computers, we are now able for the first time to eliminate entirely one disintegrating factor: the corporate concept "per share." The moment this concept is used as the basis for developing any set of symbols for communicating information about various companies, the resulting language, necessarily, gives largely *non-comparable* quantitative information about the different companies.

Stock quotations listed in our newspapers, for instance, give for the most part non-comparable quantitative information about the different stocks. Heretofore, so long as we lacked computers to convert our awkward fundamental and technical *per-share* languages into a single common language, by substituting the $100-*invested* concept, such non-comparability among different companies was unavoidable. From now on, it may well be regarded as inexcusable.

How will computers "write" this new integrated language?

To convert each stock exchange transaction, as presently reported, into the integrated, packaged-for-use form illustrated here, will require approximately 12 computations. The first of these, for example, is the multiplication of the number of shares traded—assumed to be 100 in the example given—by the per-share price at which the transaction took place ($78.50). With three places being pointed off, to express the result in thousands of dollars, the answer is 7.85.

To compute the volume traded during the last five trading days, the computer has to add the dollar volume of the most recent transaction ($7,850 in this instance) to the "remembered" dollar total of all transactions for this particular stock, including only sales up to the same time five trading days ago. This may, of course, require subtracting the dollar volumes of one or more transactions from the previously-"remembered" 5-day total. Since the "Year to Date" volume is merely a cumulative figure, this would require only a single computation: adding, in this case, $7,850 to the previous cumulative total of (approximately) $12,313,000. The total number of computations required to "write" the volume data would, therefore, be (approximately) four, not including the "remembering operations.

Similarly, the number of computations required to arrive at the five "% Change" figures would be five, plus an equal number of operations relating to stored information. Note that in making the (approximately) nine computations described above, only "technical" information—that is, information relating to the money flows generated by the buying and selling of the company's stock on the New York Stock Exchange—has been used.

On the other hand, when the three computations required in arriving at the figures for "Earnings," "Cash Flow," and "Dividends" per $100 invested are made, both technical and fundamental information must be used, the latter having been obtained, directly or indirectly, from the records of the company itself. In computing Earnings per $100 Invested, for example, annual earnings-per-share figure of $3.25 was divided by the price-per-share for the current transaction ($78.50), giving a ratio of .0414, which multiplied by $100 (to give the "per $100 invested" figure), gives $4.14. Similar computations are necessary in each case to arrive at the Cash Flow and Dividend figures shown.

How might computers "re-write" our present separate reports?

In gaining initial acceptance of the new integrated technical-and-fundamental language here proposed, it may be expedient to arrange for computers merely to translate our present reporting of stock exchange transactions into this new form of information, rather than actually report what goes on, transaction-by-transaction. Although not all the advantages of the new technique would be obtainable by this limited use of the integrated technical-fundamental language, some of its benefits could be demonstrated. Its wider and more complete adoption then would be almost sure to follow.

Under this more limited plan, instead of computers (or computer service) being made available for this purpose at the exchange level, projects in this area would be undertaken, for example, by one or more progressive financial or statistical services. At this level, no attempt would be made, presumably to deal with transaction-by-transaction data, although for special, highly-intensive analyses of individual stocks, this might not be entirely ruled out. In general the approach would be to use computer service to convert day-by-day stock-exchange-data, as currently reported, into more-fully-integrated technical-fundamental information. This could be done, as indicated below:

Data as Presently Reported: 11/25/60

Am M&Fdy 1.60 203 80½ 78½ 80¼ + 2¼

Supplemental Integrated Technical-Fundamental Information: 11/25/60

		Per $100 Invested (2)			% Change:	
Vol. ($000) (1)		Earnings:	Cash Flow:	Dividends:	This Stock:	Comp. Group:
AMF	1,620	$4.05	$7.35	$1.74	+2.8	+0.5

Notes: (1) Dollar volume can be computed only approximately; for example by taking average of high and low data, as reported, and multiplying by the number of shares traded.

(2) Per-$100-Invested figures are computed on the basis of the closing per-share price.

It has been assumed above that the space available for publishing the supplemental information of this type would be only approximately that now allotted to data for one stock as currently reported: i.e., one line of (newspaper) type. If additional space were to be used, additional information might readily be provided by the computers. For example, the dollar volume of the

"Comparable Group" of stocks might also be given, as well as the percentage change for this group. (This possibility — of providing more information than has been shown on the samples given here—applies also to "computerized" information on a transaction-by-transaction basis). Under the assumption that the day-by-day conversion of currently-reported information regarding stock transactions would be made substantially in the form shown above, the number of computations required for each such line of supplemental information produced would be six.

It will be perceived, from the examples given, that whether more-fully-integrated technical-fundamental information is produced on a transaction-by-transaction or a day-by-day basis, certain fundamental (as well as technical) information must be fed into the computers. In both of the examples given here, this information must consist of three items: the annual rate of earnings per share;[1] the annual rate, per share, of cash flow (earnings, with depreciation "added back in"); and the annual rate of dividends paid per share.

As already mentioned, to use computers most effectively in selecting stocks for purchase or sale, we must temporarily fix or "crystallize" items of fundamental information which are to be integrated. This short-term fixation of this part of the total information to be used is basic to the development and use of the new, technical-fundamental language which it is here proposed to develop. This is a key point. For without this technique of *temporarily* crystallizing the fundamental information, there appears to be no way to integrate two such separate and distinct bodies of information. This is true, whether the two bodies of inter-related but distinct information pertain to investment of funds in stocks, or to any other similarly related bodies of information.

Revision of Data Necessary

On the other hand, while the fundamental information to be fed into the computers must be crystallized temporarily in order to achieve essential integration, from the longer-range requirements of solving the problem of stock selection most successfully, this part of the total information used cannot remain fixed indefinitely. From time to time the fundamental data, whatever they may be, must be revised or "re-crystallized."

And here again, since both the frequency and the speed with which such re-crystallization is accomplished will greatly influence the success achieved in selecting stocks for purchase or sale that do what they are supposed to do, the use of modern high-speed computers for handling this part of the overall process is certain to come about sooner or later. In the keen competition for investors' funds existing in the financial world today, it will doubtless prove to be in the interests of many successful, rapidly-growing corporations to bring about the use of computers for this purpose as soon as possible.

In this connection, a challenging possibility exists, which may not be realized for many years, except perhaps in the case of a relatively few, unusually progressive, "growth-minded" corporations. This is the possibility of reducing greatly the *frequency* of re-crystallizing the fundamental information used in developing the integrated technical-fundamental language for analyzing by this new technique the problem of selecting the stock of a given company, and at the same time *minimizing* the elapsed time required to make the revised fundamental information available to the financial community.

To leap immediately to what would probably be the ultimate in realizing this possibility, a corporation could, through making use of a specialized computer service programmed especially for this purpose, revise its fundamental information every day, and have this revised information fed into the integrating computers every night. This could literally give would-be investors in this corporation's stock "Tomorrow's Investment Information Tonight."

The Overall Concept: "Crystallized" And "Re-crystallized" Semi-log Charts

It is now time to provide the second set of coordinates for the solid and broken lines depicted in the graph, representing respectively information relating to the past three years and the future two years, for instance, of a company with stock under consideration for purchase or sale. The vertical spacing should be divided in accord with the vertical scale of a semi-logarithmic chart. The scale used should be such that the data—for example, dollars of earnings (or cash flow, or dividends) per $100 invested—can be conveniently plotted so as to show marked differences in both the *heights* and the *slopes* of these lines.

The type of charting described will depict the basic concept underlying the development and use of the integrated technical-fundamental language here proposed. This concept is that of a crystallized body of information, charted on semi-logarithmic coordinates, as described, subject to movement through the field of the logarithmic coordinates by changes in a single "controlling" variable—exemplified by the per-share price of the stock being analyzed, as it is traded on an exchange.

The advantage of employing the basic concept described above is marked. Since the *slopes* of the lines representing, in this particular usage of the underlying principle, the fundamental company information temporarily crystallized, are not changed as the controlling variable (per-share price of the stock) changes, these measures of trends can be considered (temporarily) as *constants*. In many instances this key point will simplify significantly evaluations of the integrated technical-fundamental information being analyzed.

(1) The items of fundamental information used for illustrative purposes here should not be the only ones considered, in developing the new technical-fundamental language here proposed. Others might include: the annual rate of capital expenditures; the annual rate of cash outlay for capital expenditures; ditto for debt reduction; etc. Consideration might also be given to computing, for comparative purposes among different companies, such static concepts as net working capital and cash position. All computations would be per $100 invested.

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'Present Value' Techniques of Common Stock Valuation

by Sanford L. Margoshes

THE SEARCH FOR A FORMULA that will enable investors to buy cheap and sell dear is likely to be both unending and unrewarding. The reason is simple. The search will continue as long as people are free to invest in the anticipation that the cash returned from a venture will exceed its cost. The search will prove frustrating as long as investors continue to operate within a framework of uncertainty. Business ventures are by their very nature surrounded by uncertainty; i.e., by nonmeasurable and consequently statistically nonpredictable "risks."

Common stock representing proprietary interests in the future earnings of these ventures are similarly enveloped by the hazards of unforeseen loss. Businessmen attempt to capitalize on this uncertainty by outguessing competitors. Translation of hunches about the future into explicit dollars and cents terms enables management better to cope with the uncertain future. The most striking development in the post-war period, along the lines of quantification of estimates of cash flow, has been the application of "present value" or "discounted cash flow" theory to the evaluation of project proposals. The adaptation of these managerial techniques to the valuation of common stocks is the concern of this paper.

Stripping common stock valuation of its psychological and noneconomic trappings, the process of valuation fundamentally boils down to a determination of the present worth of forecast future dividends over the period the investor expects to hold the stock. The following discussion assumes that the investor will make decisions on a rational economic basis. While this assumption does not always apply to investors in general, or even to sophisticated investors, the assumption of rational decision-making is useful and perhaps necessary to the analysis of the underlying economic factors which ultimately determine the investment worth of common stock.

Investment in stock, like any other capital outlay, is essentially made for the purpose of maximizing profit; i.e., obtaining the highest available rate of return on outstanding equity investment over the economic life of the venture. The technique by which investors can most realistically estimate anticipated earning power and evaluate alternatives is so-called present value or discounted cash flow method of profitability measurement.

The technique of discounted cash flow is widely used among corporations for the purpose of evaluating capital expenditure proposals within the scope of the internal operations of the firm and also for determining the bid price on potential acquisitions of going concerns. Present value theory consequently has application to the analysis of projects with finite lives and to evaluation of the value to be paid for going corcerns, the latter being characterized by a multiplicity of projects with lives that effectively tend to be perpetual through the process of reinvestment and expansion.

Basic to the application of present value theory to project proposals and to going concerns is the notion that the purchase price or capital outlay is determined by the present value of future earnings distributed as dividends, and further that these dividends can be estimated into the future with some reasonable degree of accuracy. The techniques to be illustrated possess the major benefits to be derived from application of discounted cash flow profitability measurement but correspondingly cannot escape its weakness. The strength of the method is the required quantification of all known factors having a bearing on the relation between outlay and income in the stream of time. The weakness is the requirement of predicting events which necessarily must remain in the nature of estimates particularly as the forecasts extend into the more remote future.

PRESENT VALUE TECHNIQUES IN BRIEF

"Present value" techniques of common stock valuation might be summarized as follows:

1. *Straight liquidation approach.* In this method, it is assumed that stock is purchased in a firm embarking on a course of liquidation. Investment value is determined by forecasting cash throw-off available to the owner of a share of common stock assuming that existing properties are operated over their remaining useful life without benefit of additional capital investment. Thrown-off cash is considered as a series of liquidating dividends with the maximum bid price that can be paid being set by the present value of these dividends discounted at the minimum rate of return acceptable to the investor. As the minimum acceptable discount rate is raised, the resultant bid price will be reduced.

The orientation of the straight liquidation approach is one of viewing the purchase of stock as an investment in a project with a finite life. The technique of evaluation is consequently similar to that employed by indus-

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trial management in the appraisal of any capital expenditure proposal in which outstanding investment will be completely recovered over a limited economic life.

2. *Combination liquidation-going concern approach.* Under this method, those phases of the enterprise which can reasonably be considered to be operated on a liquidating basis are evaluated as a project in the manner outlined above. Timber and mining resources, such as coal, oil and metals, are frequently valued in this way. The balance of the firm—as for example the manufacturing end of an integrated oil company—can be evaluated as a "going concern." The going concern value of manufacturing, marketing or transportation represents the present value of all future dividends to be generated over and above an amount necessary to maintain the current cash generating capability of existing assets. Provision for reinvestment is made such that a portion of the cash income which would be available for dividends under liquidation is ploughed back in the business with the result that existing earning power is maintained in perpetuity. The required capital replenishment provision is a function of the average economic life and age of the firm's assets; the rate of corporate growth; the impact of inflation upon replacement cost; and the technological achievements of competitors. Following analysis of the firm from the standpoint of liquidation applied to depletable assets, with the balance of assets viewed on a going concern basis, the pieces can be fitted together to yield a composite common stock valuation.

3. *Investor's approach.* It is assumed in this technique that the investment value of a share of stock represents the present worth of dividends (cash dividends during the investment period plus the final dividend or sales price) discounted at a rate of return acceptable to the investor. The basic elements in the determination of investment value consequently are:

a. Cash dividends thrown-off during the investment period. These dividends are dependent primarily upon the annual level of cash income available to common.

b. The final dividend which is the sale price of the stock at the end of the investment period. The sale price is determined by the level of cash income/share existing at the time of sale and the multiplier or price/earnings ratio prevailing at that date.

c. The minimum acceptable rate of return of the investor. This rate of discount is conditioned by the going rate of profit which the investor believes is available through alternative investments carrying comparable risk.

Predicting the cash dividend throw-off *during* the investment period requires an annual estimate of cash income and the percentage payout. It is necessary, therefore, to quantify the following:

a. The investment period. Five years might reasonably be assumed as the typical investor horizon for the purpose of illustration since this time span corresponds to the period frequently considered by Financial Analysts. In addition, numerous corporations utilize five-year cash budgets. The investor's method is applicable, however, to any selected investment horizon.

b. Annual cash income available to common during the investment period. The earnings forecast should be made within the context of the outlook for the economy and industry of which the firm is a member with special consideration to the unique characteristics of the firm.

Prediction of the final dividend or sale price of the stock at the *end* of the investment period involves the assignment of a "multiplier" or price/earnings ratio to the level of earnings anticipated at the time of disposal. Major factors affecting the forecast price/earnings ratio expected to obtain at the end of five years include:

—The anticipated rate of growth in earnings beyond the fifth year.

—The percentage of earnings paid out as cash dividends beyond the fifth year.

—The debt-equity ratio. Since reported earnings reflect the advantages of leverage in periods of good business, the price/earnings ratio at such times is likely to be relatively low in response to the poor quality of these earnings. Similarly, in periods of depressed earnings, where the outlook is for improvement, the p/e ratio is likely to be higher than for the nonleveraged company. On the average, the use of leverage probably results in a reduced p/e ratio since the benefits of leverage show up in reported earnings whereas the investor's attitude of caution is reflected in a discount of these earnings in the form of a reduced multiplier.

—The rate of discount expected to be required by the general investing public at the end of the five-year investment period. A distinction should be made between the rate of return acceptable to the specific individual "Investor" presently attempting to determine investment value of a security and the rate of return which is deemed acceptable to "investors in general" five years in the future. The pertinent consideration in estimating the sale price of the stock at the end of our Investor's holding period is the more remote and impersonal discount rate requirement of the general public. It is their rate of return requirement, via its effect on the price/earnings multiplier, which will determine the selling price of the stock five years in the future.

—Subjective appraisal of managerial ability, sponsorship, and glamour might well be considered as modifications of the assigned multiplier. These factors should be quantified and explicitly incorporated into the investment value equation.

APPLICATION OF 'PRESENT VALUE' TECHNIQUES

The techniques outlined above can be clarified by way of illustration. The following information, while incomplete for refined investment value calculation, is believed adequate to demonstrate the basic principles underlying

the selected techniques of common stock valuation. Let it be assumed that the stock to be valued represents a share of a firm with the following characteristics:

Hypothetical Firm

1. Number of shares = 100; Long-term debt = zero
2. Net income/share = $1.00 currently; dividend pay-out = 50% of net
3. Cash income/share = $2.00 currently; dividend pay-out = 25% of cash
4. Forecast annual rate of growth in reported earnings:
   Net income/share:
   Year 1-5 = 10%; Year 6-on = 5%
   Cash income/share:
   Year 1-5 = 10%; Year 6-on = 5%
5. Economic life of assets = 30 years
6. Rate of decline in reported earnings assuming no further capital outlay = 7%/annum
7. Investor required rate of discount (before personal tax) = 12%

Straight Liquidation Approach

Liquidation of the entire company at an assumed 7% annual rate of decline in reported cash income over a 30-year life results in an indicated investment value of $9.80/share (*Table I*). In the assumed process of corporate liquidation, all generated cash is thrown-off to the owners. The indicated investment value is equal to the present value of these liquidating dividends discounted back to the present at the assumed minimum acceptable rate of return of 12%. Were the Investor content with an 8% rate of return the maximum indicated bid price would be increased to $12.33.

Table I

Straight Liquidation Approach

End of Year	Forecast Cash (1) Income/Share at 7% Decline	Discount Factors at 8%	Discount Factors at 12%	Present Value of Liquidating Dividends at 8%	Present Value of Liquidating Dividends at 12%
0	$ 2.00	1.000	1.000	$ 2.00	$2.00
1	1.86	.926	.893	1.72	1.66
2	1.73	.857	.797	1.48	1.38
3	1.61	.794	.712	1.28	1.15
4	1.50	.735	.636	1.10	.95
5	1.40	.681	.567	.95	.79
6	1.30	.630	.507	.82	.66
7	1.21	.583	.452	.71	.55
8	1.13	.540	.404	.61	.46
9	1.05	.500	.361	.53	.38
10	.98	.463	.322	.45	.32
11	.91	.429	.287	.39	.26
12	.85	.397	.257	.34	.22
13	.79	.368	.229	.29	.18
14	.73	.340	.205	.25	.15
15	.68	.315	.183	.21	.12
16	.63	.292	.163	.18	.10
17	.59	.270	.146	.16	.09
18	.55	.250	.130	.14	.07
19	.51	.232	.116	.12	.06
20	.47	.215	.104	.10	.05
21	.44	.199	.093	.09	04
22	.41	.184	.083	.08	.03
23	.38	.170	.074	.06	.03
24	.35	.158	.066	.06	.02
25	.33	.146	.059	.05	.02
26	.30	.135	.053	.04	.02
27	.28	.125	.047	.04	.01
28	.26	.116	.042	.03	.01
29	.24	.107	.037	.03	.01
30	.22	.099	.033	.02	.01
Total (Yrs. 1-30)	$23.69			$12.33	$9.80

(1) Cash income after tax (gross income less out-of-pocket costs) assumed to be distributed as liquidating dividends at year-end.

Existence of long-term debt requires consideration of the pattern of repayment. The amount of each year's cash dividends available to common would be reduced by debt repayment until the obligation was fully amortized. Other refinements might include allowance for changes in the effective tax rate, change in the purchasing power of the dollar and the effect of eliminating items such as research and development which are essential to the going concern but not to the firm in liquidation.

The primary inadequacies of the straight liquidation approach are the assumptions that the firm will not be perpetuated as a going concern through reinvestment, and further that investors would purchase stock in a company which is destined for liquidation over a prolonged period of time. While companies are occasionally worth more in liquidation than as a going concern, it is likely that investors generally are inclined to purchase stock in firms on the latter basis. For the purpose of analysis, however, businesses engaged in the production of depletable natural resources may be viewed from the standpoint of liquidation over the remaining useful life of recoverable assets. On the other hand, firms whose assets are highly subject to obsolescence due to shifts in market demand or rapid technological change are more realistically considered, from the standpoint of continued operation, on a going-concern basis. If a manufacturing establishment in a fast-changing industry were to terminate its reinvestment of cash, the actions of competitors might easily outmode its products with strikingly rapid curtailment of markets and severe loss of profit. Except in the case of firms where no reinvestment is contemplated, the liquidation approach should be complemented or replaced by analysis which assumes plough-back of earnings and competitive adaptation.

The 'Going Concern' Approach

The "going concern" approach seeks to find the annual "economic profit" of the firm and then proceeds to arrive at investment value by determining the present value of these economic earnings/share in perpetuity. The task of estimating the so-called economic profit is formidable due to the lack of adequate information and the implied necessity of viewing the earnings of a firm over the entire economic life of its existing assets both backwards and forwards in the stream of time. The present value of a going concern can, however, be readily determined under the following conditions:

a. The firm is in a state of equilibrium such that cash income after tax (in constant purchasing power dollars) and gross investment on the books

of the company (in constant dollars) are steady from one year to the next.

b. The average economic life of the assets of the firm can be estimated with reasonable accuracy.

c. The portion of cash income in the nature of economic profit (the residual left over after provision for recovery of investment and subsequent replenishment through reinvestment) is declared as dividends.

Perhaps the most complex aspect of the determination of economic profit is the estimation of an economically realistic provision for recovery of investment. Capital is consumed as the cash generating capability of assets decreases, and not according to any predetermined schedule of depreciation or amortization. Discounted cash flow theory has demonstrated that recovery of investment is a function of the cash flow characteristics of projects over their useful lives. The portion of cash income, which represents recovery of invested capital in the going concern, is dependent upon the level of the reported ratio of cash income to gross investment (adjusted for inflation), the economic life and age of the assets of the firm, and the pattern of cash income over asset life. The deduction from cash income may be considered in either of two ways.

Viewed in terms of a project, it represents the decrease in outstanding investment occurring during the year. In terms of the going concern, the capital recovery deduction represents the amount which must be set aside and immediately reinvested during the year in order to restore the existing facilities to their original cash generating capability at the start of the accounting period. When the firm is assumed to be in equilibrium such that cash income and gross investment (adjusted for inflation) are constant from year to year, the necessary provision for capital replenishment is equal to a percentage of gross investment arrived at by taking the reciprocal of the number of years of asset life. Applying this simplifying assumption to the illustrated firm, the capital replenishment provision would be 3.3% or the reciprocal of 30 years.

Before making the adjustment for recovery of capital, it is necessary to consider the effect of changes which have taken place in the purchasing power of the investment dollar. Inflation is mirrored in both costs and revenues. To the extent that purchases and sales of commodities are simultaneous transactions, the effect of inflation tends to wash out. Higher prices enter economic calculation both as inflated costs and as inflated revenues. The insidious impact of the decreased purchasing power of the dollar comes into play when there is a time lag between asset acquisition and cash generation or asset disposal. With the passage of time, assets recorded at original cost become progressively understated in terms of current purchasing power of money. This understatement of asset value leads to inadequate provision for the real costs of capital recovery and to fictitious profits. Capital may be viewed as a reservoir of potential generation of real income or purchasing power which is translated into dollars in the stream of time. Time is the essence of capital. Deterioration in the purchasing power of the dollar strikes hardest at the realizable value of capital because of the law between asset acquisition and the generation of cash representing a selling off of the asset.

Table II contains two published indices thought to be reasonably representative of the price changes of capital items purchased by business and suggests the adjustment which would be necessary to restate fixed assets on a current dollar basis. The table is designed to indicate the factor which might be utilized to inflate gross fixed assets per company books to dollars of 1959 pur-

Table II

Adjusting Gross Fixed Assets for Inflation

Timing of Acquisition	Construction Cost* 1959 = 100% E.N.R.	Composite	Percentage Distribution of Assets Currently in Use According to Timing of Acquisition A	B	C
Pre-1930	26%	37%	10%		
1930-34	23	32	10		
1935-39	28	35	15	15%	
1940-44	34	41	15	15	10%
1945-49	50	62	15	15	15
1950-54	72	82	15	20	25
1955-59	91	95	20	35	50
			100%	100%	100%
Weighted Inflation Factor:		E.N.R.	2.53	1.94	1.49
		Composite	2.01	1.65	1.32

*Engineering News-Record Construction Index and Department of Commerce Composite Construction Cost Index.

chasing power. It can be seen that the adjustment factor varies according to the timing of the acquisition of assets currently in use and the selected index of construction costs.

It is readily apparent that the more recently the gross fixed assets of a firm have been acquired, the smaller is the adjustment required to restate these assets in dollars of 1959 purchasing power. Case C, in *Table II*, would require an adjustment of only a 49% increase in the dollar value of gross fixed assets based on the E.N.R. Cost Index. The weighted inflation factor of 1.49 is arrived at by multiplying the percentage distribution of assets on the books by the reciprocals of the E.N.R. construction cost index and summing these products. A more realistic expression of the current dollar value of the assets of firm A would require multiplying the original cost of these assets by a factor of 2.53. In the following discussion, it will be assumed that multiplying by a factor of 1.75 will inflate the gross fixed assets of the typical firm to a level more nearly in line with the current depreciated purchasing power of the businessman's investment dollar.

One of the difficulties of applying the purchasing power concept to appraisal of corporate earnings is the lack of an index which closely corresponds to the market basket of items purchased by any particular firm over an extended period of time. Inflation affects every busi-

Table III

ILLUSTRATION OF "INVESTOR'S APPROACH"(1)

(12% Discount Rate)

End of Year	Forecast Cash Income/Sh. at 10% Growth/Yr.	Dividends/Sh. Based on 25% "Payout"	Discount Factors at 12%	Present Value of Dividends/Sh. at 12%	Sale Price at End of 5th Year (Determination Shown Below)* Undiscounted	Sale Price at End of 5th Year (Determination Shown Below)* at 12% Discount	Indicated Investment Value at 12%
0	$2.00						
1	2.20	$.55	.893	$ .49			
2	2.42	.60	.797	.48			
3	2.66	.66	.712	.47			
4	2.93	.73	.636	.46			
5	3.22	.80	.567	.45	$16.90*	$9.58	
				$2.35		$9.58	$11.93

*Determination of Sale Price at End of 5th Year(2)

Legend:

D = Dividend "payout" (% of cash income) = 25%
r = rate of growth in cash income = 5%
d = discount rate = 10%

Restrictions on Use of Formula:

1. D must be greater than zero
2. r must be smaller than d
3. D, r and d must be constant

$$\frac{(D)\ (1 + r)}{d - r} = \frac{(.25)\ (1.05)}{.10 - .05} = \frac{.2625}{.05} = 5.25 \text{ price/cash income ratio}$$

(P/E ratio) (cash income/sh.) = Price
(5.25) (3.22) = $16.90

(1) All cash thrown-off to investors is assumed to be received in lump sums at the end of each year as indicated. While dividend receipts are more realistically assumed to be distributed during the year, this simplifying assumption is made since standard discount tables are most frequently prepared on the lump sum receipt — annual compounding basis.

(2) The sale price at the end of the 5th year (undiscounted) is determined by multiplying cash income/share at the end of the 5th year by the price/cash income ratio of 5.25. The price/cash income ratio of 5.25 is arrived at by the formula assuming the following conditions: a) the five percent annual rate of growth in cash income is expected to continue into the foreseeable future; b) dividend payout is maintained at 25% of cash income; c) the price/earnings ratio is expected to remain unchanged into the foreseeable future; and d) the ten percent discount rate (earning power expectation of the general public before tax) holds constant.

The solution yields a 5.25 multiplier (10.5 on a price/net income basis) which represents the p/e ratio underlying the sale price of the "Investor" and the purchase price of the general public at the end of the fifth year. The general public's assumed discount rate requirement of ten percent per annum is satisfied through a combination of the five percent annual growth in market price (a function of earnings since the p/e ratio is constant) and a five percent dividend yield on this growing market value.

Were the general public's discount rate assumed to be 12% in line with the requirement of the sophisticated "Investor" the indicated sale price at the end of the 5th year would be $12.08; i.e. .2625 ÷ .07 = 3.75 P/E which multiplied by $3.22 = $12.08. The "Investor" could, therefore, afford to pay only $9.20/share representing a present value of $2.35 in dividends and a present value of sale price of $6.85 (12.08 × .567).

ness differently depending upon the commodities and services bought and sold in the marketplace, the distribution of assets between fixed and circulating capital, and differences regarding the relation between investment and sales. Further complicating selection of an appropriate inflation adjustment is the necessity to consider the tendency for technological improvement to partially offset depreciation of the investment dollar.

Cash Income After Tax

Estimation of the economic profit of our illustrated firm might now proceed along the following lines.

It was indicated previously that cash income after tax is currently $2.00/share. Since the firm has 100 shares outstanding, the aggregate annual cash income after tax is $200 per year on the basis of the level of current operations and outstanding investment. It is assumed that the reported cash income has not been distorted by non-recurring profits or losses, unusual shifts in the valuation of inventories, or intangibles, and that maintenance and repair while adequate does not include provision for capital replacement. Adjustment has also been made to insure that abnormal research and development expenses and other items in the nature of provisions for the future do not cloud current earnings performance.

If it is concluded that cash income of the illustrated firm is currently $200 and that the gross investment per

the books is $1,500, the indicated ratio of cash income to gross investment is 13.3% per annum. It has been previously suggested, however, that the gross investment would be closer to $2,625 after adjustment for inflation ($1,500 × the inflation of 1.75). Consequently, a more realistic statement of the ratio of cash income to gross investment would be $200 ÷ $2,625 or approximately 7.6% per annum. If the economic life of the assets of the firm were only 13.2 years (the reciprocal of 7.6%) the accumulated annual economic dividend and discounted earning power would be zero since all of the cash must be reinvested in order to keep the firm from liquidating. Since the assets of the hypothetical firm have an average economic life of 30 years, it is not necessary to reinvest all of the cash that is generated. Only 3.3% of gross investment (adjusted for inflation) must be reinvested to maintain the cash generating capability of the assets. Since the cash ratio is estimated to be 7.6%, the balance of 4.3% of gross investment represents economic profit which may be declared as dividends. When the firm is not in equilibrium the computation of economic profit is considerably complicated by such factors as the rate of growth, the decline pattern of cash income, the average of assets on the books, and the impact of competitor's technological advance.

The economic profit or dividend which can be declared each year in perpetuity is, therefore, an amount equal to 4.3% of $2,625 or $113. The annual economic profit is equal to $1.13 per share on each of the 100 shares outstanding. The investor requiring a 12% discounted rate of return before personal income tax would compute the investment value by capitalizing the $1.13 at 12% yielding an indicated worth of $9.42 or a price/net income ratio of about 10:1. Consideration of the higher rate of growth originally forecast (the "nonequilibrium" case) would result in a higher investment value.

THE INVESTOR'S APPROACH

This technique, or some variation of it, is probably the present value method which is most useful in dealing with the problem of common stock valuation. Application of the investor's approach is illustrated in *Table III*. The data in the example were set out in the description of the characteristics of the previously mentioned "hypothetical firm."

It can be seen that the investment value of one share is approximately $11.93, representing the present value of cash dividends distributed during the investment period ($2.35) and ($9.58) the present value of the final dividend received at the time of sale. The indicated investment value will vary depending upon the investor's appraisal of growth prospects, dividend payout, anticipated holding period, minimum acceptable discount rate, and an estimate of how other investors will view the prospects of the firm at the time of disposal. Under the assumptions detailed in *Table III*, the investor can pay up to $11.93/share and realize 12% or better before personal tax. This compares to a maximum bid price of $9.80/share indicated by the straight liquidation method and the conservative figure of $9.42 suggested by the going concern technique.

While no technique of common stock is any better than the basic assumptions upon which it rests, the illustrated present value techniques serve the development of sound analysis by focusing attention on the premises underlying investment worth. These techniques require the translation of vague feelings and hunches into explicit dollars and cents terms, with investment value providing a realistic standard for buy and sell decisions.

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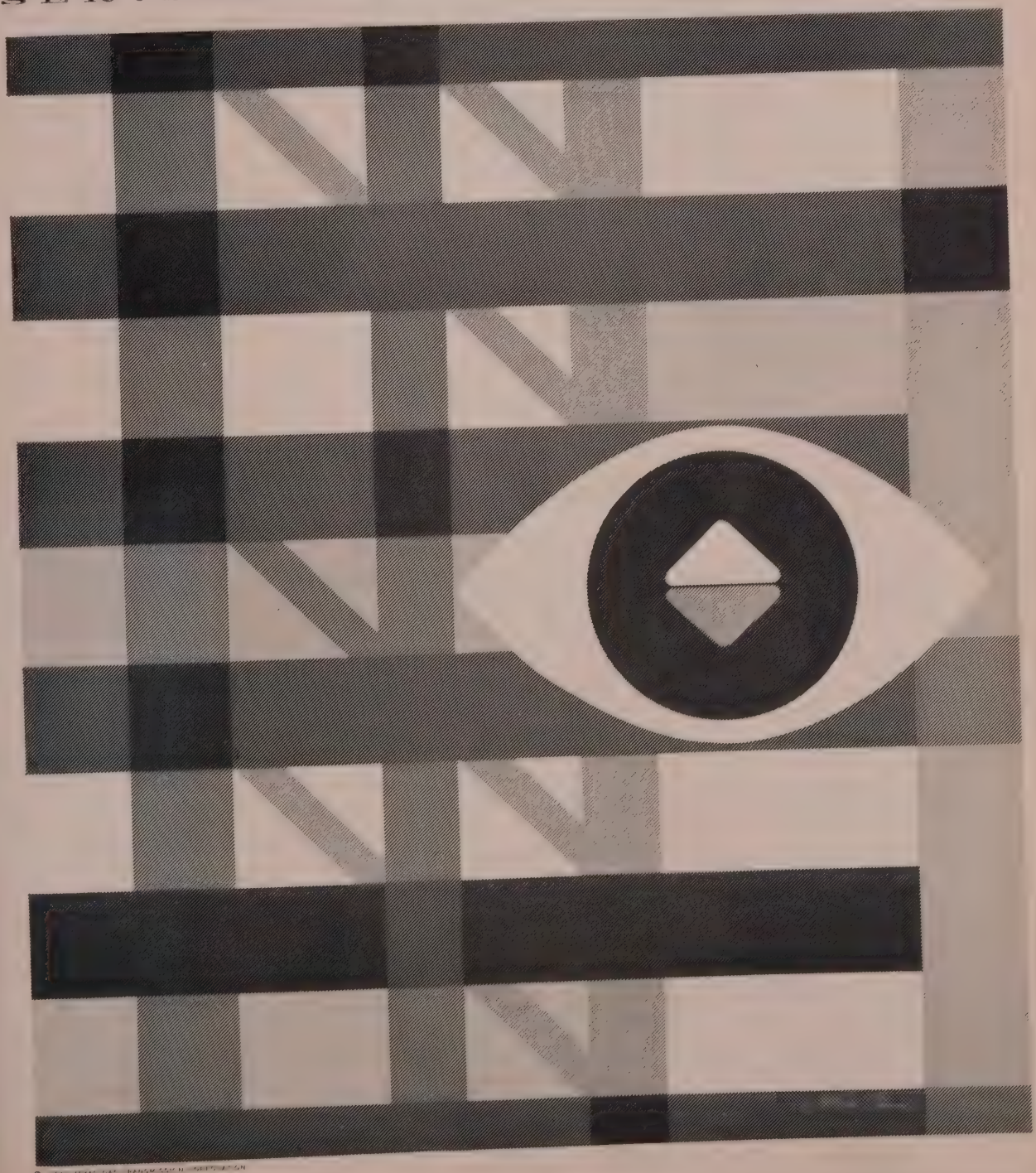

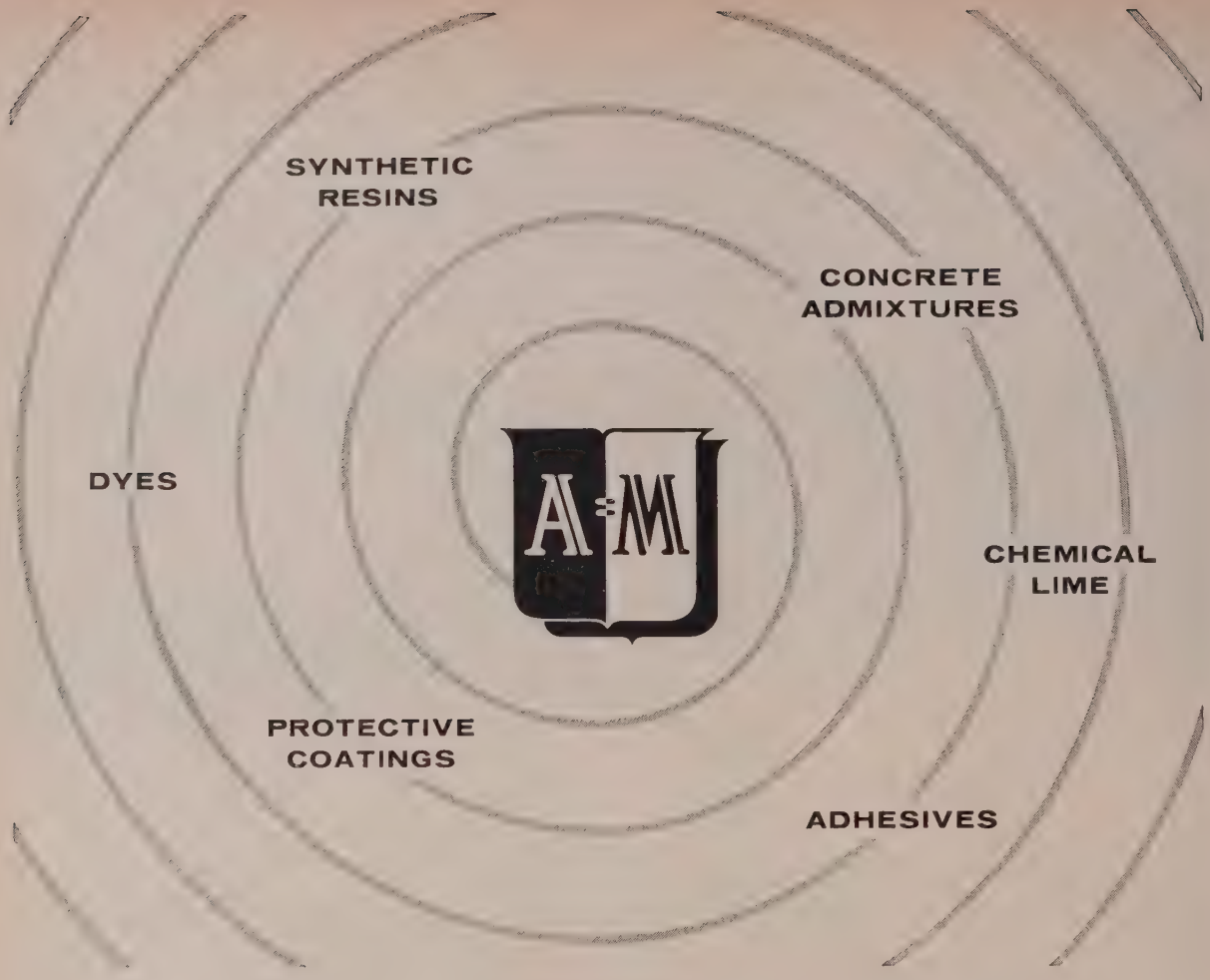

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CO-OP BANKS and BIG CREDIT

by Clyde E. Borman

FEDERAL EXTENSIONS OF CREDIT to promote the public welfare have been with us for a long time, most of them having their beginnings prior to 1933 or during the depths of the depression of the 1930's. As they have been developed, they extend only certain types of credit to business and housing but a more complete line of credit services to farmers. Most of these lending services have been channelled through borrower-owned mutualized credit institutions operating initially with federal funds, but ostensibly succeeding in reducing or eliminating the need for such funds. In organization and management they bear a close resemblance to private financial institutions.

No coordinated federal policies have ever been formulated to govern the operations of these many agencies. Each was set up to meet credit needs in specific areas. According to the Whaley-Eaton American Letter of August 8, 1959, nowhere in the entire government set-up is there any one official who knows their whole story.

In any intelligent evaluation of them it is necessary to examine the direct and indirect influence and cost of the federal credit agencies and to re-evaluate closely the entire concept of federal aid to business and agriculture through lending. Particularly is it important because it involves the large number of member-borrowers and investors who benefit financially by mutualized credit.

There is strong public endorsement of this credit mutualization and cooperative banking under the theory that it benefits the small farmer and businessman and protects him. The same endorsements include various sociological reasons for the continuation and expansion of the mutual agencies. It is purposeful to examine this endorsement and the theory behind it, and to see if, for instance, the operation of the federal credit agency known as the Bank for Cooperatives actually is socially motivated and if all bank credit goes to the small cooperative associations for the benefit of the independent farmer with little cost to Uncle Sam.

REASON FOR CO-OP BANKS

Before the Banks for Cooperatives were organized in 1933, Congress and most of the states had established the policy of fostering cooperative associations for farmers. In 1922 the Capper-Volstead Act authorized agricultural producers to act together in cooperative marketing associations. The Federal Intermediate Credit Banks, which were established in 1923, were authorized to make loans to farmers cooperatives for limited purposes.

In 1926, the Cooperative Marketing Act established a division in the Department of Agriculture to promote the knowledge of the principles and practices of cooperatives and to assist in the organization and development of cooperative associations of farmers. In 1929, the Agricultural Marketing Act created the Federal Farm Board for the purpose, among others, of financing farmers cooperative associations. The functions of the division of the Department of Agriculture in carrying out the Cooperative Marketing Act were transferred to the Federal Farm Board in 1929.

Under the Farm Credit Act of 1933, the Banks for Cooperatives were organized as a part of the farm credit system to provide financing for farmers cooperative associations. Although the country was in a severe depression at that time, there had been previous federal facilities available for the benefit of such cooperatives. The plain fact is that these facilities were judged to be inadequate. In reality, farm cooperative marketing and purchasing associations needed credit in larger amounts or for longer terms than previous government agencies and commercial banks were willing to supply. A more extensive and decentralized lending service in whose ownership and control the borrowing cooperative associations would participate was desired.

The United States Government, by matter of policy, accepted the responsibility of promoting cooperative credit suited to the needs of farm cooperatives. The Agricultural Marketing Act revolving fund, established in 1929 under the Federal Farm Board, was used to provide the initial capital for the new banks which assumed the fund's loan functions. The original capital of each district cooperative bank was set at $5,000,000 and the original capital of the Central Bank for Cooperatives at $50,000,000.

Actually the steps taken to formulate this credit agency were in addition to facilities already in existence. The need for the banks arose when existing agencies and commercial banks refused to lend in sums and on the terms which the cooperative associations felt were needed. In 1933 business and housing were in the same fix—however few provisions were made for

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groups of business men to form cooperatives with the aid of government capital for the mass marketing of their products.

Big Credit

The Banks for Cooperatives are authorized by law to make loans to farmer-owned and farmer-controlled cooperative marketing, purchasing and farm business service associations. There are well over 2,000 in the food, fibre and farm supply business in all parts of the nation. Businesses range from processing and marketing of milk and other dairy products, fruits and vegetables, grain, wine, poultry and livestock to the ginning and marketing of cotton and the marketing of wool. Service associations even range to include mutual fire insurance companies.

While the Banks for Cooperatives refuse to divulge the names of their borrowers, they do not hesitate to name names in connection with the sale of their debentures. On brochures advertising these debentures some of the largest names in the food processing and distribution business are mentioned. Sunkist and Donald Duck citrus products, Ocean Spray Cranberries, Land 'O Lakes dairy products, Rockingham Poultry, and Sun-Maid raisins are among them. In the farm supply field equally prominent names are mentioned such as Eastern States Farmers Exchange, Southern States Cooperative, Midland Cooperative, Consumers Cooperative Association, Farmers Union Central Exchange, etc. The names seem to be used to impress potential investors with the size, stability and worth of customers of the Banks for Cooperatives, and consequently with the soundness of these debentures.

Just how much do the Banks for Cooperatives furnish credit to the small farmer-producer and distributor?

In *Table I* is a schedule that shows that the average credit employed by borrowers from the Banks for Cooperatives for a three year period ranged from $275,000 to $347,000. This can, in no way, be construed as small credit or small farm business loans. It is obviously big business in every sense of the word.

It is more obvious when loans of over $1,000,000 are analyzed as in *Table II*.

Total credit lines of these cooperative associations exceed one-half billion dollars. These large credit lines, as the survey shows, are extended to somewhere between 7% and 9% of the total cooperative borrowers—admittedly a very small percentage of users.

The Comptroller General of the United States, in a letter attached to his Report on Audit of Corporations of the Farm Credit Administration, states the situation as follows: "Data relating to the amount of loans to these large borrowers under these large credit lines have not been compiled, but the amount is believed to represent a substantial portion of the total loans made during these years."

The schedule in *Table III* indicates the small percentage of total number of borrowers and the high percentage of cooperative loans used by these few borrowing

Table I

Average Credit Employed by Banks for Cooperatives

Fiscal Year Ending June 30	No. of Co-ops Receiving Loans	Amount of Loans	Average Credit Employed
1958	1921	$530,122,357	$275,961.67
1957	1780	583,577,726	327,852.65
1956	1633	567,220,422	347,351.02

Table II

Co-op Loans Over $1,000,000

	1953	1954	1955	1956	1957	1958
$1 to $3 million	75	71	68	71	72	79
3 to 5 "	20	23	22	26	32	32
5 to 10 "	13	16	23	21	20	18
10 to 15 "	9	7	4	7	7	7
15 to 20 "	5	4	4	4	5	4
Over $20,000,000	3	3	2	1	1	3
	125	124	123	130	137	143
% of total Co-op borrowers	9	9	8.6	8	7.7	7.4

Total of available credit lines:

1953	$580,068,785	1956	$555,304,362
1954	561,643,706	1957	588,653,640
1955	527,230,196	1958	601,395,998

Table III

Co-ops With Loan Balances Over $1,000,000

	% of Total Number of Borrowing Co-ops, June 30	% of Total Co-op Loans Outstanding June 30
1953	2.6%	61.1%
1954	2.6	58.7
1955	2.3	55.1
1956	2.6	57.
1957	2.8	56.5
1958	2.8	53.7

associations. It is evidence of the extensive employment of bank funds for the benefit of a very small number of borrowers. The Banks for Cooperatives do not make small loans to small cooperative associations *per se,* but are in effect extending major portions of their loan facilities to a select few. Since 1933 the Banks for Cooperatives have extended well over $8 billion in this type of credit.

Even loans to cooperative associations by the Federal Intermediate Credit Banks prior to 1933 were not small. As an example, $52,000,000 were outstanding by the Federal Intermediate Credit Banks on Dec. 31, 1926, of which $26,000,000 or 50% was to cotton cooperatives on cotton crops, cotton warehouse receipts, etc., and an aditional $14,000,000 was extended on tobacco. From their organization in 1923 through 1928, the Federal Intermediate Credit Banks extended loans to only 85 different cooperative marketing associations.

This phenomena is not restricted to the operations of the Banks for Cooperatives for it seems that our entire farm program is drifting more and more in the direction of loans to large borrowers or price supports to large

producers. As an example, the relatively new farm bill limits the amount of price support a farmer can be paid for any one crop to $50,000. However, a farmer can receive $50,000 in price support for each different price supported commodity; for example, a farmer can receive $50,000 for price supported cotton; $50,000 for price supported peanuts; and $50,000 for price supported tobacco.

In addition, a grower may obtain a loan in excess of $50,000 provided he agrees to pay back the excess within 12 months. The Secretary of Agriculture is authorized to extend the repayment period at his discretion. Another exception removes the limitation for any farmer who agree to reduce his planting of a crop by amounts ranging up to 20% as determined by the Secretary of Agriculture. No limitation whatsoever is to apply on farmers marketing cooperatives, nor to government price support operations that are not directly connected with farmers such as the dairy support program under which the government deals with dairy processors in purchasing butter, dry milk and cheese.

Loan Policies

There are 12 district banks for cooperatives and one Central Bank for Cooperatives located in Washington, D. C. The division of lending authority between the central bank and the district banks is prescribed by the Governor of the Farm Credit Administration consistent with the principles specified in the Farm Credit Act of 1955 that the Central Bank for Cooperatives shall make loans only in cases where it is not practical for the loan to be made by a district bank.

The principal lending activity of the Central Bank, therefore, is carried on through participation in larger loans made by the district banks. The district banks also participate from time to time in credit extended by the other Banks for Cooperatives and the several banks make loans to one another for short periods.

Eligibility loan standards are liberal and varied. They include loans to cooperatives engaged in:

1. Processing, preparing for market, handling or marketing farm products, or

2. Purchasing, testing, grading, processing, distributing or furnishing farm supplies, or

3. Furnishing farm business services.

A cooperative must be operated for the mutual benefit of its members and must not include products or furnish services for non-members in a total amount greater in value than the total amount of such business transacted by it for members.

Three classes of loans are available to farmers cooperatives:

1. Commodity loans to enable cooperatives to make advances to their grower members and to pay costs of marketing, or to enable such associations to handle member loan documents representing commodities which are eligible for purchase or payment by the Commodity Credit Corporation, and in the case of purchasing associations, to assist them in carrying inventories of supplies and commodities to be used for agricultural purposes.

2. Operating capital loans which supplement funds that farmers themselves furnish for operating purposes.

3. Physical facility loans to assist the associations to buy, build, or lease elevators, packing plants, warehouses and other physical facilities, or to refinance the cost of such construction or acquisition.

It is generally required that commodity loans be repaid in full at the end of the borrowers marketing or purchasing season. Maturities of operating capital loans vary in accordance with the credit needs of the borrowers. Physical facility loans are generally repaid over periods of from five to ten years but under the statute such loans may be made to mature over a 20 year period.

Regulations prescribed by the Farm Credit Administration provide that, except with the written approval of the Farm Credit Administration, loans by a district Bank for Cooperatives outstanding to any one borrowing association cannot exceed the following limits, expressed in a percentage of a bank's net worth:

1. Commodity loans (excluding Commodity Credit Corporation documents)	25%
2. Operating capital loans	20%
3. Facility loans	20%
4. The sum of facility and operating capital loans	20%
5. The sum of facility, operating capital, and commodity loans (excluding Commodity Credit Corporation documents)	35%

Regulations prescribed by the Farm Credit Administration also provide that the total loans from the Central Bank for Cooperatives to any one Farmers Cooperative Association, exclusive of commodity loans or of operating capital loans to finance commodities within the limits of government price support programs, shall not at any time exceed 25% of the net worth of the bank.

Loan Limits are Liberal

As far as eligibility is concerned, there are very few steps in the processing and marketing of goods, the advance of working capital or the utilization of farm services that are not eligible for the loan program. When the loan is too sizeable, or when a District Bank for Cooperatives does not wish to handle it for some other reason, the facilities of the Central Bank for Cooperatives are available. Moreover, each cooperative district bank can participate with others in loans originated by them.

Maturities of loans are liberal, ranging up to a 20 year period. Loan limits are large since each District Bank for Cooperatives is a sizeable institution and a loan of 25% of the net worth of such a bank could be considered more than adequate credit facilities for almost all applicants.

The Banks for Cooperatives have access to a further source of loan funds by borrowing from the Federal In-

termediate Credit Banks. The Banks, not including the central bank, are located in farm credit district offices in the same locations as the Federal Intermediate Credit Banks; namely Springfield, Mass., Baltimore, Md., Columbia, S. D., Louisville, Ky., New Orleans, La., St. Louis, Mo., St. Paul, Minn., Omaha, Neb., Wichita, Kansas, Houston, Texas, Berkeley, Calif., and Spokane, Wash. This in effect provides for an additional source of funds for Banks for Cooperatives by "running upstairs" to the Federal Intermediate Credit Banks.

Joint managership of the district credit office provides a convenience. Each district Bank for Cooperatives operates under a board of directors which consists of the seven members of the district Farm Credit board who are also, ex officio, directors of the Federal Land Bank and Federal Intermediate Credit Bank of the district. Five members of the board of directors of this District Credit Bank are elected: two by the National Farm Loan Associations of the district (who originate loans for the Federal Land Banks); two by the Production Credit Associations (who originate loans for the Federal Intermediate Credit Banks); and one by the cooperatives which are entitled to vote as stockholders of the district Bank for Cooperatives.

Interest Rates to Borrowers

The Farm Credit Act of 1955 provides that loans to cooperative associations made by any Bank for Cooperatives shall bear such rates of interest as the board of directors of the bank shall from time to time determine, with the approval of the Farm Credit Administration, but in no case shall the rate of interest exceed 6% per annum on the unpaid principal.

The Commission on Organization of the Executive Branch of the Government Task Force on Lending Agencies, February 1955, took a dim view of this. It reported:

"Substantially all of the capital in the Banks for Cooperatives has been supplied by the Government out of public funds, and until passage of the Farm Credit Act of 1953, without interest or other charges for the use of the money. This has enabled the banks to accumulate earnings, and in some instances to lend at rates of interest more advantageous to the borrowers than those which they would have had to pay to other lenders. The result has been the subsidized establishment of a specialized credit system for cooperative business enterprises, and to some extent, through the system, the grant of subsidies to individual cooperatives. The existence of accumulated earnings could represent a potential further subsidy to all present and future beneficiaries of the system. So far as the task force is concerned, there seems to be no reason now why the government should continue to subsidize cooperative business enterprises any more than it should subsidize all other business enterprises."

There is some doubt whether the policy of fixing interest rates actually benefits all members of the co-operative system, or rather, in view of the large amounts of credit being extended to a relatively few borrowers, the practice doesn't actually result in substantial subsidies to a few large associations. The Task Force for the Commission on Organization of the Executive Branch of the Government (Hoover Report) took the view that the policy resulted in subsidy to these associations and failed to see why such subsidy should be offered co-ops any more than any other business enterprise.

Repayment with Strings Attached

Under the provisions of the Farm Credit Act of 1955, the banks have issued three classes of stock each with a par value of $100 per share:

(1) Class A stock is non-voting, non-dividend bearing government-stock; (2) Class B stock is a non-voting stock on which non-cumulative dividends from 2-4% per annum may be paid and which may be issued to any person. Dividends of at least 2% per annum must be paid before any patronage refund is distributed; and (3) Class C stock is farmer-owned stock.

The Farm Credit Act of 1955, effective as to Banks for Cooperatives on Jan. 1, 1956, provided for the gradual retirement over a period of years of the Class A capital stock by issuing Class C stock. Class C capital stock is acquired by borrowers either by purchasing at least one qualifying share, by investing from 10% to 25% of the amount their interest payable in Class C shares, or through accepting patronage refunds in the form of Class C shares.

Funds from the retirement of Class A stock, however, are not returned in cash to the Government, but rather are retained in an Agricultural Market Revolving Fund and are available for repurchasing Class A stock in the Banks for Cooperatives if necessary. A similar arrangement creates a contingent liability on the U. S. Government to subscribe to $125,000,000 repaid it by the Federal Land Banks for funds advanced the land banks during the real estate collapse of 1932-33. It seems that even when Uncle Sam gets his money back, there are strings attached.

Table IV

Agricultural Marketing Revolving Fund

Statement of Condition

	1958	1957
Assets:		
Cash	$ 44,328,229	$ 38,600,072
Investment in capital stock of Co-ops	141,587,500	147,313,500
Total	$185,915,729	$185,913,572
Liabilities:		
Represented by investment of U. S. Government:		
Appropriations	$500,000,000	$500,000,000
Less Deficit	314,084,271	314,086,428
Total	$185,915,729	$185,913,572

Standby funds exceeding $185,000,000 are available in the Agricultural Marketing Revolving Fund, *Table IV*, for use by the Banks for Cooperatives. Uncle Sam, taking the initial risk similar to that of an equity investor, did not get his money back. While it is true that funds have been returned to the account of the United States Government, they are held in readiness for use by the cooperative bank system and are not available for the general expenditures of government. The principal investor received neither dividend nor principal repayment, but rather received his investment back with strings attached. From the practical viewpoint of that investor, such return has little value.

As a matter of fact, Uncle Sam fared poorly in his investment in the Banks for Cooperatives from 1933 through 1955, a period of 22 years. In accordance with the provisions of the Farm Credit Act of 1955, the surplus of each cooperative bank as of Dec. 31, 1955 (representing its retained net earnings accumulated since 1933) was reserved as a part of the permanent capital of each bank. This reserve surplus is $88,111,198. Net losses in any one fiscal year are to be absorbed by this reserve surplus account after contingency reserves and surplus allocated to patrons have been exhausted and before the impairment of capital stock. The reserve surplus may not be otherwise distributed except upon liquidation or dissolution of the banks. Consequently the major part of all earnings accumulated as a result of U. S. investment for a period of 22 years were segregated and retained by the banks while a completely new method of repaying Uncle Sam, the original capital investor, was devised.

How Surplus is Handled

In order to strengthen their capital accounts with little consideration for this principal investor, the banks apply annually 25% of net earnings to the creation and maintenance of an additional surplus account which is allocated on the books of the banks to their borrowers on a patronage basis. If the surplus of any bank exceeds 25% of the total of all its outstanding capital stock, the excess may be distributed in the same manner as patronage refunds. At June 30, 1958, the surplus allocated to patrons, representing 25% of the net earnings since Jan. 1, 1956 was $5,077,085.

There are other reasons why many of those who have examined the investment of government capital in the Banks for Cooperatives in the past have not been too enthusiastic with the returns on it. The Commission on Organization of the Executive Branch of the Government, a Report to Congress—Lending Agencies, March 1955, reported as follows:

"There are certain agencies in which the federal government has investments in which it receives either no return or an inadequate return. In some of these agencies the money advanced by the federal government has been used to purchase United States securities. Where this situation exists, the government is in the position of paying interest on the money it borrowed to make the investment in the agency and at the same time paying the agency interest on that part of the government investment which the agency has used to buy United States securities."

A recommendation from this commission then followed:

"Recommendation—that the Secretary of the Treasury be required to impose rates of interest on the agencies discussed in this report (among them the Banks for Cooperatives) for Federal advances or contributions equal to the going rate of interest paid by the Treasury on its obligations of comparable maturity."

Effect Would be Severe

This recommendation alone, if adopted, would have caused the Banks for Cooperatives a considerable loss in income. A previous Commission in March 1949 would have been equally severe had its recommendation been followed. It recommended:

"We recommend that all Government business enterprises be required to surrender to the Treasury all United States securities held, up to amount of the capital furnished them by the Government, and that they receive in return non-interest bearing credit to the Treasury. They should not be allowed to invest their idle funds in any other securities except as authorized by the Congress." This recommendation not only would have imposed restrictions on the rates of interest on funds invested in Federal Government securities, but would have required the actual surrender of United States Treasury securities up to the amount of Government capital which was invested in United States Treasury securities. On June 30, 1949, the Government had $178,500,000 invested in the Banks for Cooperatives.

FRANCHISE TAXES

It is questionable whether the Banks for Cooperatives are returning an adequate amount to the U. S. Government in the form of franchise taxes for use of federal funds. Federal franchise tax earnings for the 1954 fiscal year was estimated at $1,166,835. This is the first return to the government on its investment in the co-ops since they were organized in 1933—a period of 21 years during which Uncle Sam had substantial sums invested in the banks and received *not* a penny in return.

The accompanying schedule in *Table V* intends to show to some extent the fact that while federal franchise taxes are paid, returns to the United States Government as principal investor are meager. On first glance it appears that paying the United States Government over $1,000,000 in taxes would be a substantial return on funds invested. However, the General Accounting Office of the United States has estimated the cost to the United States Treasury of funds used by the Banks for Cooperatives. These are shown in the schedule as an offset against franchise taxes paid by the banks. Note that on this basis the Banks for Cooperatives annually cost the United States Government about

Table V

Capital Investment and Distribution of Income
Banks for Cooperatives

Year	Investment by U. S. Government	Investment by Co-ops	Reserved Surplus	Surplus Allocated to Patrons
1954	$150,000,000	$17,949,900	$78,376,568(1)	None (1)
1955	150,000,000	18,304,900	85,199,514(1)	None (1)
1956	150,000,000	20,681,920	88,111,198	$ 977,014
1957	147,313,500	25,272,414	88,111,198	2,955,071
1958	134,798,700	30,860,436	88,111,198	5,077,085

	Estimated Costs of Funds Furnished by U. S. Treasury (2)	Franchise Taxes Paid to U. S. Government	Cost of Funds Less Taxes Paid	Patronage Refunds U. S. Govt.
1954	$ 4,097,000	$1,166,835	$2,930,165	— (1)
1955	3,527,000	1,553,191	1,973,809	— (1)
1956	3,864,000	1,298,687	2,565,313	$1,623,981
1957	3,550,033	1,317,482	2,232,551	3,195,276
1958	4,366,000	1,416,753	2,949,247	3,491,736

(1) For this comparison; total surplus accumulated by 1956 was $88,111,198.

(2) By General Accounting Office.

two to three million dollars. Also note that the banks continue to be liberal in creating larger and larger surplus accounts and to return more and more patronage refunds to their patrons. For the last year under review these two items total over $8,000,000.

From the viewpoint of the farmer-borrower and the large co-op, the Banks for Cooperatives are successfully operated. From the viewpoint of the cash investor, namely Uncle Sam, there is some question as to the attractiveness of his investment. *The excessive cost to him is a direct subsidization to a special group.* That subsidization gives the co-ops liberal capital advantages over private lenders is an established fact. That such subsidization allows the Banks for Cooperatives to compete unrealistically against private lenders in an open market for loans is also an established fact. That the burden of such subsidization falls on Uncle Sam and in turn on the general taxpayer cannot be disputed.

Consolidated Debentures

Consolidated debentures of the Banks for Cooperatives are issued under section 37 of the Farm Credit Act of 1933, as amended. They are the secured joint and several obligations of the 13 banks. Total amount of consolidated debentures plus any outstanding individual debentures of the central bank which may be issued and outstanding at any time may not exceed eight times the combined capital and surplus of the 13 banks. The amount of each issue, the rate of interest which it is to bear, and the proportionate participation of the several banks are determined by the bank's debenture committee or its sub-committee, subject to the approval of the Farm Credit Administration. The Central Banks for Cooperatives is authorized to issue debentures individually for which it is solely liable, but these individual debentures must also be included in the limit of eight times the combined capital and surplus of all district and central banks.

Consolidated debentures are required by law to be secured by collateral which shall be at least equal in value to the amount of debentures outstanding and which shall consist of cash, direct obligations of the United States or notes or other obligations made in accordance with the statutory lending authority of the banks. The collateral for consolidated debentures is assigned in trust to custodians appointed by the Farm Credit Administration and held by them as security for the issues.

Though a switch from United States Treasury securities to agency issues is a way of saying that the risks are substantially equal, the question arises as to just how much like U. S. Treasury obligations these securities are. Obligations of the United States Government are secured by the full faith and credit of that government.

Agency Issues Not Obligations

There are no strings attached to such a pledge. On the other hand, agency issues are not obligations of the United States Government regardless of their close association to that government. Agencies themselves take great care in pointing out this fact to investors. Nevertheless, investors seem to rely on some "intuitive" idea that the Federal Government will not allow any of its agencies to fail. This, in effect, precludes no change in the operation of these agencies that will affect their earnings or the collateral behind their securities, notwithstanding the fact that a change could be made in their operations; their operations could be considerably less profitable; and there is room for socialogical speculation as to their basic intrinsic value during these times.

According to the June bulletin of the United States Treasury, the following debentures of the Banks for Cooperatives were outstanding:

(1) $78,000,000 due Aug. 3, 1959; (2) $77,000,000 due Oct. 1, 1959; and (3) $130,000,000 due Dec. 1, 1959.

Some professional investment supervisors are hesitant about recommending these issues. They are not too satisfactory for short term use owing to the fact that the relatively small amount of outstanding obligations restricts their marketability. One investment counselor pointed out that quotations on these issues can always be obtained but frequently no offerings are available, and on other occasions no acceptable bids can be obtained. Also, unlike full obligations of United States Government, these debentures confer no exchange right on the holder at maturity.

Operational Details Little Understood

It is doubtful therefore whether much reasoning other than the "intuitive" one prevails in the markets for Co-op securities. While it is true that they probably bear some type of "intangible guarantee" on the part of the United States Government, it is also true that the details of the operation of federal agencies are seldom understood and bear little relationship to the market for these securities and the yield thereon.

The total cost of the Government's agricultural program is sometimes difficult to determine because it must include not only the expense of direct farm aid but also the expense of farm agencies and bureaus whose costs are sometimes concealed in the complex operations of the Farm Credit Administration and other divisions of government. For a great number of reasons, these credit agencies do not operate as private businesses nor can they be considered as profitable investments for Uncle Sam. Any subsidization of them must fall on the general tax payer.

It is apparent that some sensible way of evaluating the government's farm lending program is needed. There are some corrections of this program which, if adopted, would go a long way toward relieving the burden to the United States tax payer:

(1). All government loan programs should be self-sustaining, or at least cover the average cost to the U. S. Treasury of capital funds advanced or loaned to the agencies. Moreover, either agencies such as the Banks for Cooperatives should be required to surrender the United States investments which they hold or at least they could be exchanged for non-interest bearing obligations of the United States Treasury. This one procedure would eliminate the inequity of charging the United States Government interest on its own money.

(2). Interest rates should not be fixed by statute or regulation but rather should be allowed to fluctuate in accordance with the supply and demand conditions created in the market place by borrowers and lenders. This alone would go a long ways toward eliminating the subsidization now offered by the Banks for Cooperatives for their special borrowers.

(3). The Agricultural Marketing Revolving Fund should be returned to the United States Government where it belongs. If this is not done, at least a Congressional review should be made periodically to determine whether such a fund is necessary.

(4). The initial capital of the Banks for Cooperatives, still substantially over $125,000,000, should be retired at a greatly accelerated rate. Many agencies provide that 5% of the amount of a loan be required to be taken in capital stock of the agency. Perhaps this amount is unrealistic for Co-op borrowers, but some similar regulation would greatly accelerate retirement of this capital. At the present rate of retirement of government capital, it will take the Banks for Cooperatives about 15 more years to achieve full private ownership.

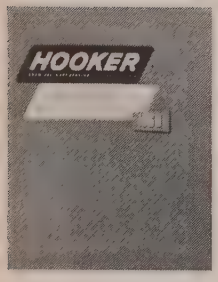
(5). The device of an inequitable franchise tax is unfair to the government which fathered the agency. The Federal National Mortgage Association is required to pay to the United States Government a sum equal to what its corporate taxes would be if it were a private corporation. The Banks for Cooperatives could do the same and at least some sort of realistic return to the United States Government would result.

(6). Basic to the consideration of the problem is the tax advantage enjoyed by all cooperative associations including the Banks for Cooperatives. That the Banks for Cooperatives are in effect pools of credit for large business enterprises *cannot* be denied. That these large subsidized business enterprises *compete in the same market* with private tax-paying industries *also cannot be denied.* There seems little reason why steps cannot be taken towards eventual tax equalization of cooperative associations—particularly when they have advantages such as have the Banks for Cooperatives both in their operations and in the source of their funds.

In the meantime the trend to support of federal agencies, particularly credit agencies, continues. Unless and until some of the aforementioned steps are taken, it is likely that the trend will continue and accelerate. Federal agencies, including the Banks for Cooperatives, are sizable steps towards total "mutualization" of credit and control of the private American financial system. Ironically enough, commercial banks, insurance companies, trust funds etc.—all theoretic proponents of a private enterprise system—are among the foremost institutions which provide funds through the purchase of securities for the continual expansion of the mutualization movement.

HOOKER
CHEMICAL CORPORATION and Subsidiaries
1960

SALES OF Hooker and its consolidated subsidiaries reached a new high in 1960 . . . Expansion of research and development activities, combined with increased costs, held earnings to slightly below the record 1959 earnings . . . Considerable progress was made in our five-year major expansion program . . . Both domestic and foreign operations were broadened . . . Research and development activities resulted in new products and improved existing ones . . . Management organization was strengthened . . . On this solid foundation, Hooker looks forward to further growth as general business conditions improve.



Our 1960 Annual Report reviews the year's operations and details the progress made in expanding plant and equipment and diversifying our product lines and markets. Copies may be obtained upon request to Secretary, Dept. D, Hooker Chemical Corporation, 666 Fifth Avenue, New York 19, N. Y.

HIGHLIGHT REVIEW

FOR THE FISCAL YEARS ENDED NOVEMBER 30, 1960, AND 1959

	1960	1959
Net Sales and Other Income	$152,082,287	$150,743,809
Income Before Income Taxes	25,132,877	26,859,219
Provision for Income Taxes	12,444,000	13,457,583
Net Income	12,688,877	13,401,636
Dividends Paid	7,553,875	7,536,395
Earnings Retained in Business	5,135,002	5,865,241
Working Capital	59,520,555	62,052,670
Gross Plant and Equipment	175,594,103	163,220,609
Net Plant and Equipment	100,604,126	94,771,801
Long-Term Debt	59,684,800	62,164,900
Shareholders' Equity	100,267,120	94,953,643
Common Shares Outstanding	7,343,258	7,336,190
Earnings Per Common Share	$1.70	$1.80
Dividends Per Common Share	1.00	1.00

OUR FACILITIES

Corporate Headquarters	666 Fifth Avenue, New York 19, N. Y.
Corporate Research	Hooker Research Center, Grand Island, N. Y.
Export Sales Office	New York, N. Y.
European Office	London, England
Eastern Chemical Division	Plants: Niagara Falls, N. Y.*...Columbus, Miss....Montague, Mich. Sales Offices: Niagara Falls*...Buffalo...Chicago...Detroit...New York...Philadelphia ...Worcester
Western Chemical Division	Plants: Tacoma, Wash.*...Spokane, Wash....North Vancouver, B.C., Canada (Hooker Chemicals Ltd.) Sales Offices: Tacoma*...North Vancouver...Los Angeles.
Phosphorus Division	Plants: Jeffersonville, Ind.*...Adams, Mass....Columbia, Tenn....Dallas, Texas... Houston, Texas Sales Offices: Jeffersonville*...Chicago...Houston...Marysville, Ohio
Durez Plastics Division	Plants: North Tonawanda, N. Y.*...Kenton, Ohio Sales Offices: North Tonawanda*...Buffalo...Chicago...Dayton...Detroit... Los Angeles...New York
Subsidiaries	Fosfatos Hooker, S. A.; Mexico City, Mexico Hooker Chemicals Limited; North Vancouver, B.C., Canada Hooker Chemical International Limited; Nassau, Bahamas Hooker Mexicana, S. A.; Lecheria, Edo. de Mexico Marble-Nye Co.; Worcester, Mass.
Affiliates and Jointly Owned Plants	Duranor Industrias Quimicas Sociedad Anonima Industrial y Comercial; Buenos Aires, Argentina HEF, Inc.; Columbus, Miss. Solar Salt Company; Salt Lake City, Utah

*DIVISION HEADQUARTERS

HOOKER CHEMICAL CORPORATION

HOOKER CHEMICALS PLASTICS

Diversification—Key to Transportation Progress

by Clair M. Roddewig

TRANSPORT DIVERSIFICATION, or common ownership of various modes of transportation, holds much promise of substantial benefits for the public—through the removal of regulatory barriers to more efficient and economical transportation. Transportation companies — whether they be motor carriers, barge lines, airlines or railroads —sell the same commodity; the movement of things from one place to another.

These segments of transportation constitute one of the nation's greatest industries—the transportation industry. There are variables in the methods and functions of the transportation industry, such as the means of transport, cost of service, flexibility of service, piggyback, containerization, transit time, volume, time for movement and frequency of service.

Railroads Handicapped

The railroads, by law and regulation, have been and are being handicapped today in offering the public the best possible service. Why? Because they have been forbidden full use of the new tools of transport. Technologically, they have been frozen in large part to the mold of steel wheels on steel rails.

Laws prescribing this confinement of the railroads to transportation over steel rails were designed to protect other forms of transport *in their infancy;* and in the case of waterway carriers, a rejuvenation through technological advances—which now, however, have reached maturity and have taken over a predominant position in transportation.

The railroads have been under regulation for 72 years; highway carriers for 25 years; air carriers 22 years; and water carriers 20 years. The controls that were imposed on the highway, air and waterway carriers varied considerably in the extent of their restrictiveness. But as these controls were imposed, railroad regulation was almost invariably tightened. Today the railroads find themselves in a regulatory straitjacket. It is not a healthy situation and could ultimately bring dire consequences to the entire transportation industry.

The railroads' competitors are opposed to any change in existing laws which would permit common ownership, claiming that this would involve a change in transportation policy and would result in a change in the structure and functioning of transportation in the United States. The railroads agree that this is true.

But the railroads' competitors also contend that neither change is needed in the public interest. With that conclusion the railroads emphatically disagree.

Not Proposed as Cure-All

The railroads do not propose transport diversification as a cure-all for all the nation's transportation problems, nor even as a cure-all for all the problems of the railroad industry. What they do suggest is that transport diversification is a dynamic and positive step in the direction of strengthening the common carrier system so as to meet the changing needs of commerce and industry.

Many of the statements made by the spokesmen for the highway, waterway and air carriers in opposition to common ownership deal with transportation problems that have no relation to common ownership—problems that the railroads do not claim will be solved by transport diversification. Such statements obviously are made for the sole purpose of throwing up a smoke screen to conceal and obscure the facts that do bear upon common ownership.

Now just what do the railroads mean when they talk about transport diversification? Very simply, they mean the right, as railroads, to own and use the newer tools of transportation, such as airplanes, motor vehicles, and barges, under the same conditions, under the same restrictions, under the same regulations, under the same showing of public need, and under the same safeguards against monopoly, as their competitors.

Following are a few things that definitely are not involved in transport diversification. When railroaders talk about transport diversification, they do not suggest any change in the minimum or maximum rate powers of the Interstate Commerce Commission or of any other public agency dealing with rates. Neither do they mean any change in the anti-trust laws of the United States, or any laws which deal with monopoly, restraint of trade, destructive competitive practices, or price fixing.

At this point it is interesting to note that the motor carriers, the barge lines and the airlines, from all outward appearances, have joined to form what might be termed a common front to keep the railroads in a very tight regulatory straitjacket.

Two railroads—the Southern Pacific and the Illinois Central — have applied to the Interstate Commerce Commission for authority to buy the John I. Hay Barge Line. At hearings in St. Louis on their application, barge operators opposed the purchase on the grounds that it might lead to a monopoly, even though the Hay Company handled only 1/230th of the total tonnage on the Mississippi River system in 1958. Fear was expressed (it is difficult to believe that it was real) that the railroads were attempting to take over inland waterway transportation.

(continued on next page)

Clair M. Roddewig, president of The Association of Western Railways, was named to that position while serving as president of the Chicago & Eastern Illinois Railroad. Mr. Roddewig holds a J.D. degree from the John Marshall Law School. During World War II he was general counsel for the Office of Defense Transportation.

The opposition of the other barge lines was natural enough and was to be expected; but the surprise came when representatives of air transport appeared in opposition along with the motor carriers.

Authorization Under Law

By *no* stretch of the imagination can rail management understand how the air transport organization, or the motor carriers for that matter, have any legitimate interests which require them to join with the barge lines in opposing the purchase of one barge line by two railroads. What is sought in this particular proceeding is merely authorization under existing law. It does not call for change in the present law.

About all that can be concluded is that there is a deal under which "you scratch my back and I'll scratch yours," or, to state it a bit differently, "you protect our monopoly in our field of transportation, and we'll protect yours!" In this way they work together so that they can preserve the legal monopoly each of these forms of transport holds through regulatory policies as they are interpreted and administered today.

It is quite obvious, and even natural, that these other carriers do not want the railroads to have equal opportunity with motor carriers on the highmay, or with airlines in the air, or with barge lines on the inland waterways. That became quite clear last year during hearings before a Congressional Committee on bills which would have provided for transportation diversification.

In opposing Congressional approval of these bills, the railroads' competitors presented testimony, some of it factual, some of it far-fetched, some of it bordering on the ridiculous, and some obviously based on misinformation.

Opponents of common ownership emphatically contended that it would give the railroads a license to create a monopoly in transportation. Everyone should recognize this argument for exactly what it is worth. Actually, these carriers have grown to maturity, and have achieved the dominant positions in the transport picture they enjoy today, only because they have been aided and abetted by restrictions imposed on the railroads. By projecting allegations of monopoly, they are smoke-screening the monopolies they themselves have perpetuated in their respective fields.

With respect to these charges that the railroads are trying to create a transportation monopoly, the railroads repeat that they do not propose any change in the anti-trust laws; nor do they propose that a railroad be authorized to institute a new motor carrier operation without a showing of public convenience and necessity; nor do they propose that a railroad be authorized to purchase an existing motor carrier without a showing that such purchase will be consistent with the public interest.

Monopoly Charge a Ghost

The railroad industry, in a statement to the same Congressional Committee, responded to the monopoly charge by characterizing this fanciful concept as "nothing more than an attempt to lead a ghost into the legislative halls.

"The ghost of monopoly," the statement declared, "is so far removed from reality that fear of it may be likened to being afraid to come east of the Mississippi River for fear of falling into Niagara Falls.

"It is to be noted," the statement continued, "that in those geographical areas where railroads do possess unlimited motor-carrier rights and have energetically utilized such rights for many years, no tendency toward monopoly has been manifested nor has aggressive independent trucking competition been reduced. There are adequate and abundant legislative and administrative safeguards against transportation monopoly which will prevent this ghost from taking on any dimension of reality."

Despite the fact that shippers generally favor common ownership, the carriers by highway, inland waterway and air continue their efforts to convince the public and the law-making bodies that shippers would suffer because the railroads would use common ownership to crush competition and then increase rates. This charge is just another smoke screen designed to protect these entrenched interests in the monopoly they each have enjoyed since infancy.

Shippers Want Diversification

On the contrary, substantial benefits to the public will result from diversification. A. G. Anderson, general traffic manager of Socony Mobile Oil Company, very ably summarized these benefits recently in a panel discussion before the American Petroleum Institute in Chicago. He said:

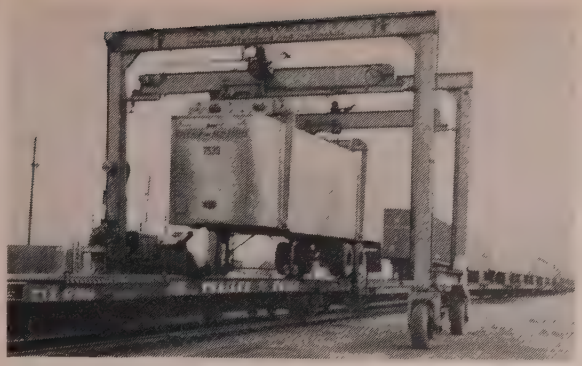
"I'm still strong for common ownership which, among other things, can help the railroads to participate in traffic which is 'off-track.' Common ownership would permit them to use any combination of truck, water and rail to the best advantage.

"Many people say this is already available to the railroads through coordination, but I am firmly convinced this is wishful thinking. Unless the several modes of transportation are under common control and management, there will certainly be no voluntary effort to provide coordinated services in the shippers' interest.

"Surely there is no such prohibition in the marketing practices of the petroleum industry. For, we market tires, batteries and other accessories as well as gas and oil. Moreover, supermarkets can sell anything from mops to cosmetics.

"I don't feel," concluded Mr. Anderson, "it's in the public interest to prohibit the railroads, or any other carrier for that matter, from acquiring and controlling other modes of transportation which will ultimately benefit the shipper."

The railroads' competitors persist in suggesting that the public benefits which can be expected to flow from common ownership can be obtained by voluntary co-



One of several means by which truck-trailers are loaded and unloaded in trailer-on-flat-car service.

ordination of two or more types of transportation through joint rates and through routes.

To claim that there are workable alternatives to intermode ownership is to dwell on theory and not on reality. Through routes and joint rates between railroad lines and motor carriers have not developed and the idea has not proved attractive to those who use transportation, or to most of those in the business of furnishing it.

The suggestion for a coordination of service in which the railroads lose practically all contact with shippers—and merely furnish bridge line facilities to their competitors at the originating and receiving ends—is a prospect that is selfishly attractive to the other forms of transportation, but offers no real solution to the need for constant and enduring improvement in transportation service. That end can be realized only by common ownership and consolidation of responsibility for service from the point of origin to the point of delivery.

Over and above all this, it is illogical for the trucking industry now to suggest the adequacy of alternatives short of common ownership of transport media as adequate methods for coordination of service. In fact, the trucking industry is consistently opposing most of the aspects of trailer-on-flat-car service—a major development in transport coordination in recent years. An exception to their opposition is that one narrow phase of trailer-on-flat-car service which gives the truck operators the entire field of direct customer contact and service.

The railroads' competitors on the inland waterways like to cite the Panama Canal Act of 1912 as the reason why the railroads should not be permitted to provide a diversified transportation service which would include the operation of barge lines. The 1912 Act was intended to protect independent shipping companies by prohibiting railroads from operating ships through the canal. It set a precedent for tying railroad transportation companies to their steel rails.

Close Eyes to Changes

The inland waterway interests say, in effect, that what was good enough for the country in 1912 is good enough for the country today. They close their eyes to the fact that the economy of this country has undergone great changes since 1912. Similarly, they choose to ignore the many additional regulatory and legal processes to guard against monopoly and destructive competitive practices that exist today that did not exist in 1912.

The real issue, insofar as railroad barge operations are concerned, is simply whether they are to be regulated by conditions that exist today or are they to be regulated by conditions that existed in 1912?

In opposing diversification, the highway carriers and the airlines, along with the waterway interests, say that common ownership would amount to an invasion by the railroads of their particular modes of transportation. They use this argument to suggest that they have acquired a vested and exclusive right to perform certain transportation services, and that the proposal of the railroads to diversify is, in effect, a ruthless invasion of their private domains. They use the term "invasion," of course, to connote something bad or something evil and something that is contrary to the public interest.

Right to Use New Tools

But what the railroads are talking about is legislation that will give the railroads the right to use the new tools of transportation on the same basis as their competitors, and only when the Interstate Commerce Commission has found that such a service is in the public interest.

Radio and television have come upon the scene as instruments of communication and entertainment. Now, many newspapers own and operate radio and television stations as a part of their communication and entertainment business. Here, of course, government approval was required in the case of new licenses and the transfer of old licenses, but there were *no* barriers to diversification itself. The situation in that respect is no different than what the railroads are proposing today.

As most people know, duPont started business as manufacturers of ammunition. Yet when the company diversified and went into the textile field, did those in the textile business run to the government and seek protection and raise the cry that duPont was invading their business?

Did the farm machinery people run to the government for protection when Ford Motor Company started manufacturing farm machinery, on the ground that Ford was invading the farm equipment business?

Neither did the fertilizer manufacturers raise any cry of invasion when the Anaconda Copper Company began the manufacture of chemical fertilizer.

How about General Motors, the world's largest manufacturer of motor vehicles, which diversified to make, of all things, railroad locomotives?

And, how about the pioneer gas and gaslight companies which diversified and offered their customers electric energy? Did anyone run to the government demanding special protection? *Of course that didn't happen.*

America was built on competition, and in every phase of our industrial and commercial life, companies have

accepted the fact that they had to compete for the business of the country under fair competitive practices. Otherwise the progress of this nation would have been stymied.

In no segment of the economy does business demand the shelter of the government from fair competition except in the transportation business. In the whole American industrial economy only railroads are prohibited or restricted insofar as being permitted to take advantage of new concepts and new tools in the conduct of their business.

The prohibitions and restrictions enacted by Congress against common ownership were not enacted on the recommendation of the Interstate Commerce Commission. On the contrary, the Interstate Commerce Commission. several times before the enactment of the Motor Carrier Act, had recommended to Congress that railroads be encouraged to employ all methods of transportation.

Opposed on Special Interests

It was the pleaders for the special interests — the pleaders for the trucking companies, the waterway interests, and the ship lines, and later the airlines—who sponsored these restrictions against common ownership. These restrictions were originally special privilege legislation, and their perpetuation throughout ensuing years has been for the benefit of these same special interests, at the expense of public interest.

Now, however, times have changed. Conditions have changed. The infant industries have grown to maturity. Some have grown considerably beyond the maturity to which their inherent advantages would have taken them. The overriding public interest will be served by the repeal of these special privileges which have long since outlived their purpose.

The railroads pay heavy taxes on their own rights of way, and pay heavy taxes to help build highways, waterways and airports for their competitors. It is ironic that they are denied equal opportunity to use them.

In transportation today there is the most intense competition, and competition is the life blood of trade. It is definitely in the public interest. It is inequitable, absurd and contrary to the public interest to require the railroads to compete for the transportation business of this country with one or both hands tied behind their backs, and without the use of all available tools of transport.

Security owners, and all others interested in the continuation of a sound transportation system, should be vitally concerned with the elimination of the roadblocks which now prevent diversified transportation companies. The railroads believe these individuals should let their voices be heard by those who have the power to change the laws and regulations which are now obstructing transportation progress.

BENEFIT OF PROGRESS

The art of transportation must have the benefit of progress. This includes not only the technical progress from improved engineering and research, but improvement in performance, through economic and business developments in the transportation field.

The offering of diversified services under unified management offers to the public a new concept of transportation, a concept capable of efficiencies and economies never before present in the market place of the commercial movement of property.

The opposition of selfish entrenched interests is not unexpected, but it cannot be permitted to deprive the public of the benefits that will flow from common ownership.

PRESIDENT'S REPORT

FROM NORTHERN STATES POWER COMPANY

Owned by 77,900 shareholders, and serving over 600 communities in Minnesota, No. Dakota, So. Dakota, and Wisconsin

Population increases in NSP's major service areas reflect industrial growth of Upper Midwest

The 1960 census shows that the population in the St. Paul–Minneapolis area (accounting for 57.5% of Northern States Power Company's gross revenue) rose 24.1% between 1950 and 1959...contrasted to the national increase of 18.4%.

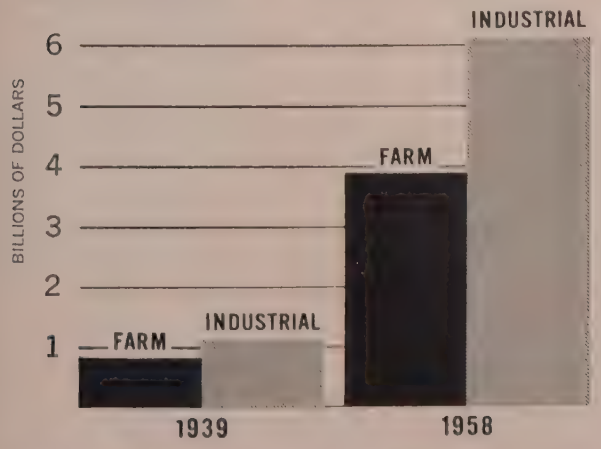
Population increases in other key NSP headquarter cities ranged from 18.5% to 37.4%.

Significantly, counties serviced by NSP in our four-state area had an average increase of 14.5%. Counties not served by us had only a 10.5% increase.

The definite growth in urban population, we believe, reflects the growing industrialization of the Upper Midwest.

In 1939, for example, the total income from manufacturing exceeded agricultural income by only 200 million dollars in our Upper Midwest states, (Minnesota, Wisconsin, North Dakota, South Dakota).

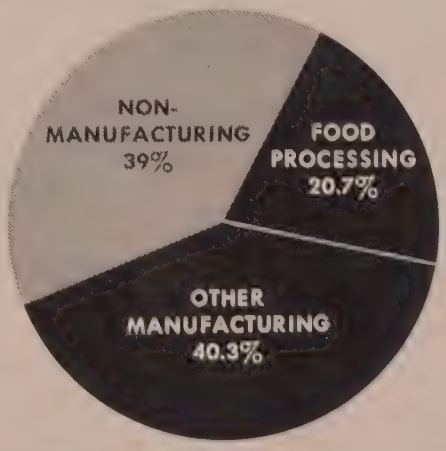
In 1958, receipts from industry exceeded receipts from agriculture by more than two billion dollars...a 10-fold increase, as shown below.



Farm income vs. industrial income in Upper Midwest, 1939 and 1958

In the same period, the number of men and women employed in industry more than doubled—from 337,000 to 678,000.

Fortunately for NSP, this growth in industry is not limited to any one field. Among our larger customers are meat packers (Armour, Morrell, Swift); food processors (Pillsbury, General Mills); manufacturers such as Minnesota Mining, U.S. Rubber, Trane, Minneapolis-Honeywell, Remington Rand Univac, Whirlpool. The chart below shows the healthy diversification of our large light and power customers.

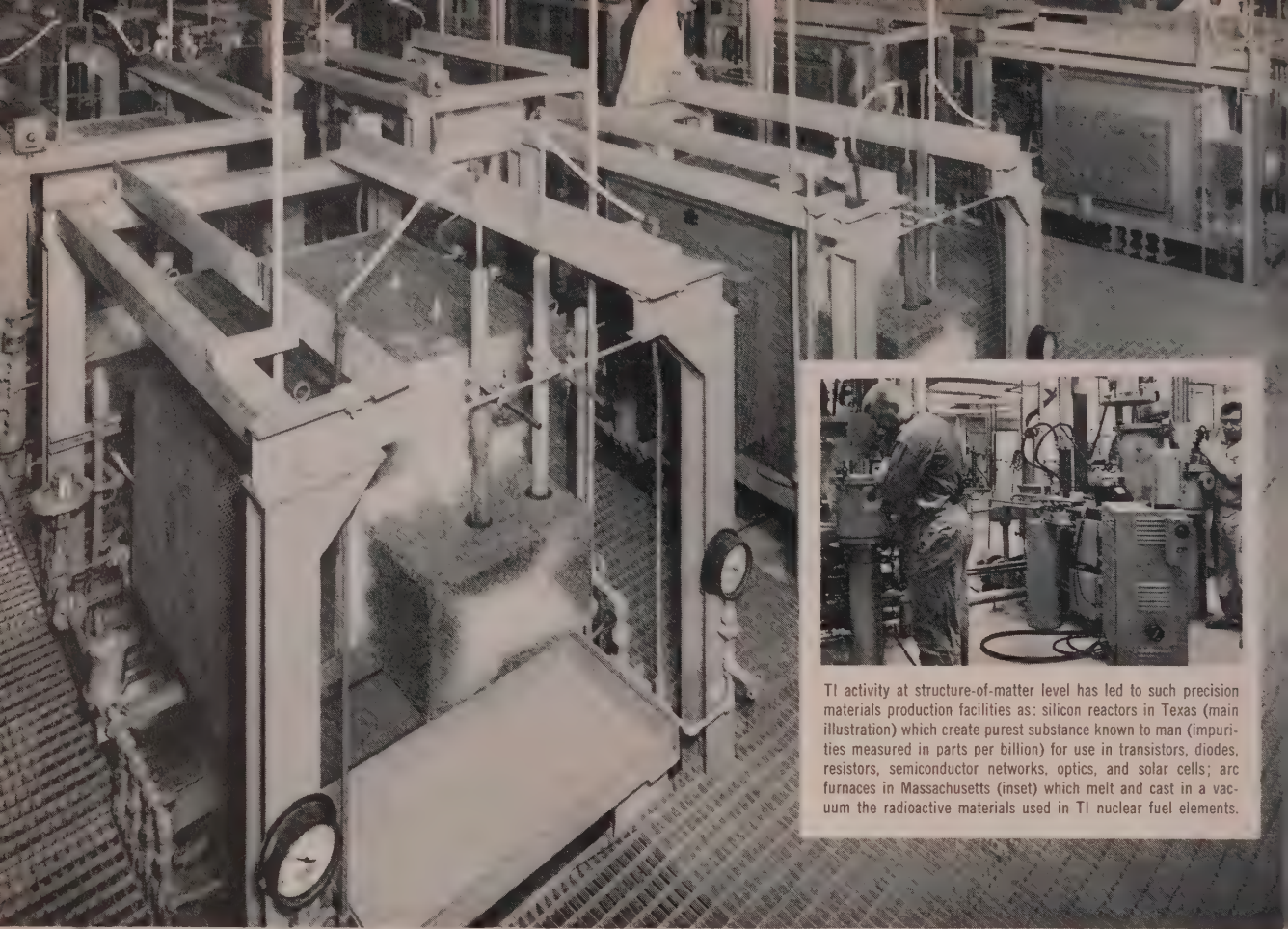


Revenues (by class) from large L&P customers

This balance of income from industry parallels the balance of all NSP's electric revenues: residential and rural 44.4%; small light and power 22.2%; large light and power 23.7%, other 9.7%.

We consider this diversification highly desirable since it gives NSP excellent market stability and helps protect against fluctuations of the economy.

President,
Northern States Power Company
Minneapolis 2, Minnesota



TI activity at structure-of-matter level has led to such precision materials production facilities as: silicon reactors in Texas (main illustration) which create purest substance known to man (impurities measured in parts per billion) for use in transistors, diodes, resistors, semiconductor networks, optics, and solar cells; arc furnaces in Massachusetts (inset) which melt and cast in a vacuum the radioactive materials used in TI nuclear fuel elements.

MIND OVER MATTER...AMONG THE MOLECULES!

TAILOR-MADE MATERIALS for new products throughout industry are now in mass production at Texas Instruments, after years of concentrated research deep into the structure of matter.

No longer restricted to working with available natural materials — instead, *improving on nature* at the structure-of-matter level — TI scientists already have discovered new products which have speeded the development of electronic and nuclear systems, instruments and components. This fundamental molecular approach also is benefiting invention and development in diverse other fields.

The ability to control production from a basic state to an infinite number of finished forms has supplied materials so pure that contaminants are reduced to the billionths, straining the sensitivity of the most advanced measuring instruments. Controlled materials production is of such volume at TI that several special facilities (of which the operations above are small segments) are devoted to both batch and continuous processes.

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FORMULA PLANNING—

Another Method of Locating Highs and Lows

by Robert R. Dince

LIKE FINDING THE PROVERBIAL better mousetrap, Financial Analysts have always sought ways to indicate the proper buying and selling points in an ever fluctuating securities market. The Dow Theorists, chart readers, and other market "phrenologists" have developed hosts of schemes to uncover these action points. One similar type of scheme which has had wide acceptance in the past has been the *Formula Plan*.

Without delving into the evolution of formula plans, it is enough to say that the formula plan is an investment-timing device designed to prevent the investor from letting either his unreasoned euphoria or his dark melancholia sweep away his investment judgment. Just as a number of popular religious books have put it, formula plans have been designed to give the investor "peace of mind." All formula plans operate on the fundamental idea that the investor surrenders his individual judgment to a mechanistic guide which makes him buy stocks when they are "cheap" and sell them when they are "dear."

Essentially, the problem of constructing formula plans centers around devising a technique which will accurately demonstrate when stocks are dear or cheap. Investment strategy becomes quite simple once a "norm" for judging the relative position of stocks has been established. This is obvious because the more depressed stock prices are, the greater should be the investor's confidence that stock prices will rise. And conversely when security prices are significantly above the established norm, an investor should dispose of his volatile securities until they reach "normal price levels." The key to formula planning, therefore, is the development of a norm for the formula.

As a point of departure, it should be clearly understood that formula plans do not predict stock prices; they only determine "normal" values. In accordance with Warren's catalogue of norm determination, formula norms are separated into two major classes: (1) norms based on moving averages (typically of stock averages); and (2) a norm based on the determination of the intrinsic value of stocks.[1]

1. Footnotes at end of article.

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Cottle and Whitman in their study of formula plans have clearly demonstrated that no advantage lies in using any type of trend line technique. Their exhaustive investigation of the major types of formula plans brought them to the rather reluctant conclusion that intrinsic value methods gave superior results even though these schemes would differ severely from a collapse in market prices.[2] In fact, Cottle and Whitman demonstrated superior results were attained by the Graham and Dodd "central value" technique even though they were highly suspicious of its use. They admitted that while their criticisms against the Central Value technique were valid, their criticisms were in the nature of the "proof that according to the laws of aerodynamics bees can not fly."[3]

The basic purpose of this paper is to show how an intrinsic value formula can be built which will give superior results. J. Fred Weston pointed the way to a formula approach to investment timing when he wrote:

"When the market has risen above its longterm secular trend, even though not excessively, the risks of an immediate downward movement are that much greater. To protect himself against such risks, the investor should maintain a reserve of cash assets which will enable him to weather adverse market movements."[4]

Weston's technique is essentially simple since he develops a regression equation derived from a correlation analysis between Gross National Product and the Dow-Jones Industrial Average. His reasoning to support the correlation is direct, as he states that GNP, sales, corporate profits, and dividends are all functionally related. Dividends in turn are one of the more important factors in determining stock prices. The regression equation developed for GNP and the DJIA is that the formula or estimated value of the DJIA should equal the term (28.20 plus .9675 GNP). While he claims no miraculous fit between these two essentially dissimilar statistics he believes that a basic secular relationship exists. (*See Chart I*).

Developing a Formula Plan

The concept advanced by Weston is basically amenable to being used as advice to manage a formula plan. When stock prices are high relevant to general business conditions as reflected in the GNP, the stock market is not correctly appraising economic conditions and stocks should be liquidated. When stock prices are low relative to GNP, stocks should be accumulated. Applying the formula given by Weston, a plan of the central value

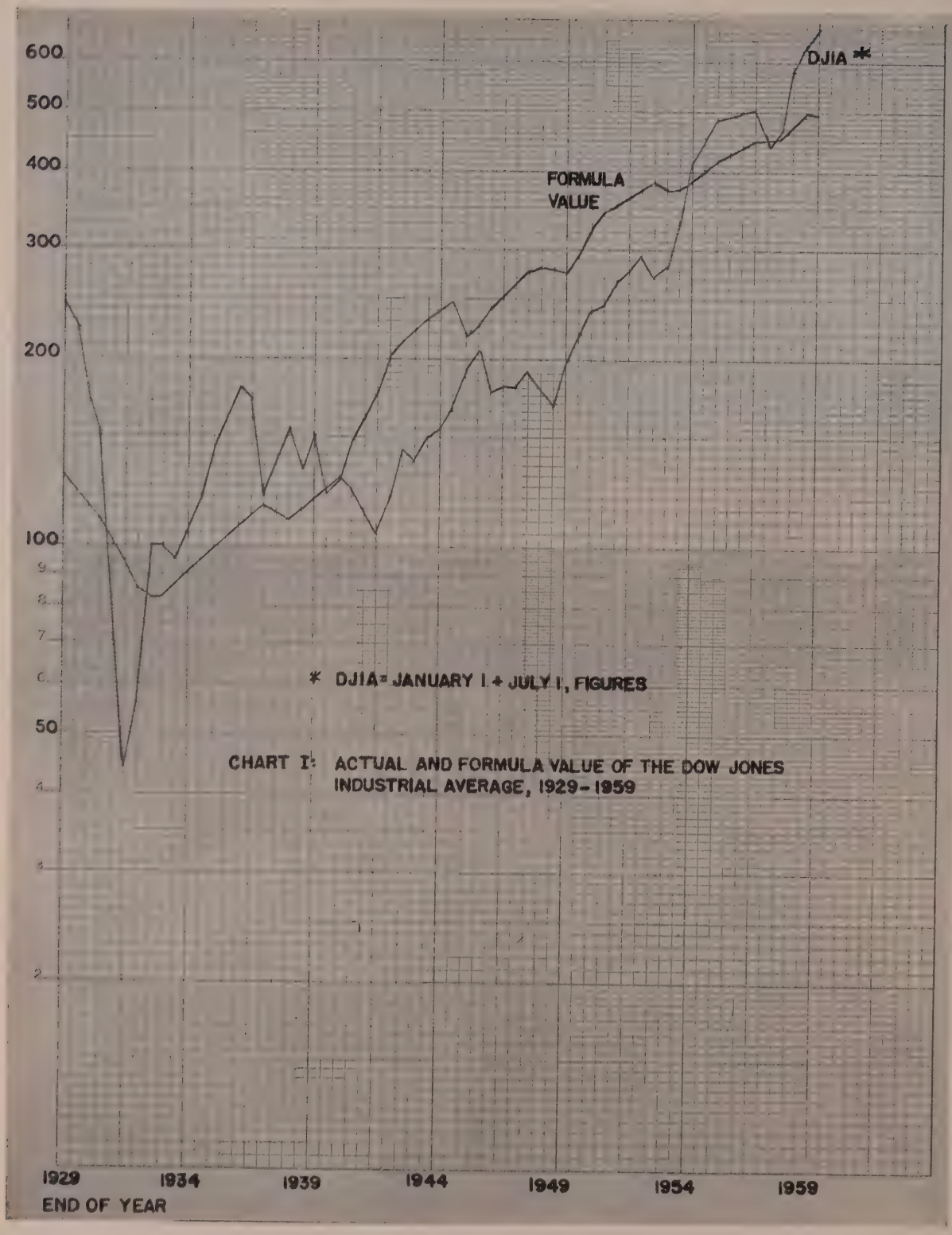

CHART I: ACTUAL AND FORMULA VALUE OF THE DOW JONES INDUSTRIAL AVERAGE, 1929–1959

type can easily be constructed. Determination of normal values is based on a constantly changing economic statistic which itself is a basic measure of national economic activity. Since GNP is a measure of the current net value added through production, there is no problem of having to make adjustments in the index because of inflation or deflation.

The mechanics of the plan are as follows:

(1). At periodic intervals, January 1 and July 1, the actual value of the GNP is substituted in the Weston formula. The resulting formula or "central" value figure is compared to the actual DJIA and the DJIA (actual) is stated as a percentage of the formula value. (*See Chart I*).

(2). Using a seven zone portfolio relationship developed by Marshall Ketchum, professor of finance, University of Chicago, the relative percentage of the total portfolio to be invested in stocks (volatile segment) and bonds (non-volatile segment) is determined. While Ketchum's schedule could be adjusted to suit any particular investor's needs or tastes, it seems to be a fair compromise.

(3). No allowance is made for brokerage charges. While this is a weakness, it is estimated that no more than one percent of the net change in any period would have to have been allocated for the cost of switching.

(4). The vehicle for stock investment is assumed to be the DJIA itself. Using the DJIA begs the question of selection of the stock segment, but the DJIA is made up of common stocks widely traded and well known to the general public.

(5). Dividends are computed on the basis of the actual number of the units of the DJIA held during the last six months. The semi-annual dividend rate on the DJIA was then applied to these units.

(6). Managing the bond segment of the portfolio created the greatest problem. For simplicity's sake, it is assumed that the bonds purchased have a twelve and half year maturity. No allowance was made for changes in the capital value of bonds due to changing yields. All bonds were bought and sold at an assumed par. When bonds were liquidated, it was assumed that sale of bonds was distributed proportionally over the whole bond portfolio. This arbitrary action had the effect of reducing the high yield bonds equally with the low yields. This cumbersome technique was realistic as compared to other formula studies which simply multiply the total bond portfolio by current bond yields.

(7). All bonds bought were purchased with a coupon rate equivalent to the then current Moody's AAA bond average. Interest income received was computed by totaling all interest receipts from each bond maturity held over the last six month period.

(8). Management of both the bond and stock segments was ignored. Switches were made only at the specified dates regardless of how security prices might move during the period.

(9). On the semi-annual review date, switches could be made only if the amount to be switched, as determined by the formula, was greater than $1,000. This was done in order to minimize trading and to prevent second-guessing market movements.

OPERATING UNDER THE FORMULA

Given the above ground rules, operation under the formula is relatively simple. Taking as a typical operation the adjustment of the portfolio on Jan. 2, 1940, the procedure would be as follows. Using the Weston formula, the fourth quarter 1939 GNP figure ($93.9 billion) is multiplied by .9675 and the constant 28.20 is added to that figure giving a formula figure for the DJIA of 119. The DJIA actually was 151.43 on Jan. 2, 1940. Dividing the formula value into the actual value results in a figure of 129%. Using *Table I*, this value just falls within Zone II (30% stock / 70% bonds). The total portfolio value on January 2, 1940 equalled $143,739; there were 411.83 units of the DJIA held at that time, each valued at $153.43.* To this is added the 81,376 of bonds held to give the total portfolio value. The total is then multiplied by the factor of 30% (the percent according to *Table I* which should be held in stocks) and the resulting $43,122 is the amount which should be invested in stocks. This necessitates selling 127.06 units of the DJIA valued at $19,241 and purchase of a like amount of bonds. By July, 1940, the GNP, having risen to $98.5 billion, and the DJIA having fallen to 121.12, the formula was thrown into a 50/50 stock/bond ratio. Accordingly, $28,747 worth of bonds were sold and 237.34 units of the DJIA were purchased.

Table I

Relationship of percentage difference between actual Dow-Jones Industrial Average and formula value as related to zones determining variable ratios of stocks and bonds.

Dow-Jones as a % of formula value	Zones	% Ratio Stocks	Bonds
141 or more	I	20	80
126-140	II	30	70
111-125	III	40	60
90-110	IV	50	50
75-89	V	60	40
60-74	VI	70	30
59 or less	VII	80	20

Source: Marshall Ketchum, "Investment Management Through Formula Timing Plans," Journal of Business of the University of Chicago, July, 1947, p. 159.

The success of the formula can be seen by looking at *Table II* which shows the year end values achieved by using the formula from Dec. 31, 1929 to Dec. 31, 1959. The total value of the portfolio was 502% of the original figure as compared to the 273% comparative value for the DJIA. Year-end values were only "under water"

*While the DJIA is nothing but a stock index, it is assumed for our purposes that it resembles a mutual fund whose price is the numerical value of the index. This begs the question of stock selection and even the makeup of the DJIA, but these objections are not germane to working of the formula plan.

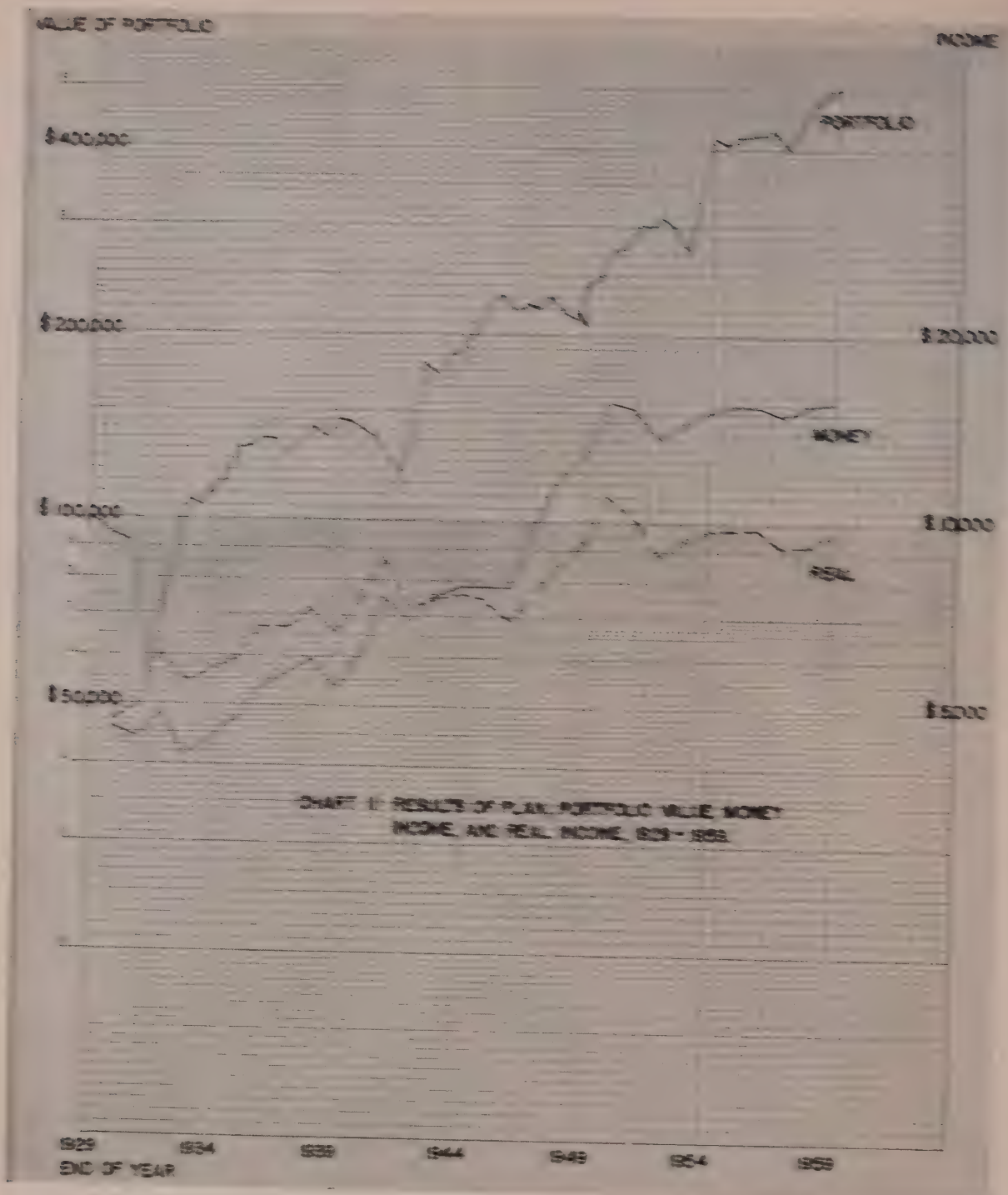

CHART II: RESULTS OF PLAN. PORTFOLIO VALUE, MONEY INCOME, AND REAL INCOME, 1929–1959.

three years and losses from a previous year resulted in only 10 years. At this point it is well to reemphasize the purpose of formula planning: formula planning "minimizes the emotional strain of making frequent important decisions . . . and it eliminates the risk of taking unwise measures during temporarily unfavorable conditions."

The converse of this is also true that it forces the investor to make decisions to buy when perhaps all his other inclinations might dictate a negative attitude.

While comparative tests are not conclusive, it is interesting to compare the results of this formula plan to other as tested by Cootle and Wiseman. For the period

Table II

Year End Portfolio Value, Real and Money Income, 1929-1959

Year	Ratio %	[illegible]	[illegible]	[illegible]	[illegible] (2)	[illegible] (3)	[illegible]
1929	20/80	$100,000	$ 20,000	31.30	$	$	244.23
1930	20/80	93,250	19,050	31.30	4,800	4,720	169.74
1931	70/30	78,135	54,695	132.38	4,441	5,000	74.82
1932	70/30	72,164	50,480	350.72	4,847	6,088	50.23
1933	40/60	107,233	42,989	925.37	4,528	5,470	100.38
1934	40/60	110,234	44,094	673.23	4,455	5,895	104.51
1935	20/80	125,410	25,082	170.38	4,790	5,870	144.13
1936	20/80	135,235	27,047	151.48	5,398	6,072	179.82
1937	50/50	128,550	43,275	324.70	5,825	6,754	120.57
1938	30/70	145,095	42,567	276.47	5,344	7,256	154.14
1939	30/70	143,730	43,122	294.77	5,297	6,550	151.48
1940	50/50	140,042	70,021	330.27	4,058	7,406	130.57
1941	70/30	129,211	90,448	402.18	7,335	8,778	112.77
1942	70/30	137,198	96,039	320.28	4,847	7,203	119.38
1943	70/30	174,344	122,042	397.02	7,381	7,483	135.00
1944	70/30	190,051	133,321	372.02	7,811	7,618	152.58
1945	60/40	222,440	133,464	408.68	7,854	7,495	191.44
1946	70/30	210,550	153,580	377.30	7,860	8,270	178.29
1947	70/30	223,007	156,505	384.50	9,248	7,542	180.14
1948	70/30	218,507	153,018	374.23	10,710	8,357	175.13
1949	70/30	230,790	167,848	344.02	12,341	9,354	190.39
1950	70/30	274,258	191,981	404.10	15,525	10,989	229.12
1951	60/40	298,254	178,953	443.15	15,303	10,107	249.38
1952	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1953	60/40	307,224	184,334	709.15	14,650	9,242	280.12
1954	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1955	40/60	420,267	168,275	349.50	15,088	9,845	405.78
1956	40/60	424,470	169,792	347.14	15,390	9,739	404.18
1957	50/50	405,252	202,626	465.71	14,996	9,088	439.27
1958	40/60	475,594	190,454	325.25	15,595	9,201	569.85
1959	30/70	502,305	150,894	227.02	16,673	9,887	479.30

(1) [illegible]
(2) Dividend income [illegible] average [illegible]. [illegible] average.
(3) Money income [illegible] B.L.S. Consumer [illegible] index. [illegible]

[illegible] portfolio value managed under the [illegible] Plan increased [illegible] the same period [illegible].

Income Return

Most formula plans emphasize the gains that can be made through the operation of the formula-guided portfolio. Income received from the portfolio, however, is just as important to the investor. Management of the portfolio involves the problem of maintaining a continuous investment in a portfolio of stocks and bonds so that a maximum income consistent with safety may be received. According to *Chart II*, the curve of money income received with the portfolio roughly kept pace with the changes in portfolio value. Over the 30-year period, the annual yield equaled [illegible].

Even though total 1959 money income was [illegible] of the 1929 figure, the portfolio was unable to maintain the same growth of real income. After 1943, real income [illegible] portfolio [illegible] 1959, the gap between real and money income widened. This type of [illegible] performance would place the portfolio manager in a dilemma. In order to conserve his capital value, he is forced to sell stocks. For according to the formula concept he has no choice except to accept his capital gains as stock prices rise above formula values.

If the portfolio manager were to use his own judgment he might be reluctant to switch out of high yield stocks into low yield bonds. This would be particularly true since the formula plan used here makes no allowance for relative yields. It is enough to point out this dilemma but as long as part of the portfolio must always be invested in bonds, the increase in dividends would be offset by the loss in real income accruing from bonds.

The rapidly rising bond yields of the late 1950's finally had the effect of pushing the yields on the total portfolio [illegible] of the real income from the portfolio. The [illegible] of the [illegible]

of stock as a result of a drop in the DJIA. Instead of liquidating bonds, however, funds were provided by the maturing of $94,066 worth of 2.61% bonds. Stocks were purchased with this money and an additional $35,338 was available to purchase 3.81% bonds. In addition to this transaction, heavy bond purchases in 1958 and 1959 had the effect of pushing the weighted bond yield average on the portfolio from 3.09% in mid-1957 to 3.53% by the end of 1959. Since stock yields were falling 20% in this period, the marginal effect of the heavy additions of new higher yielding bonds lifted the portfolio's total money return in spite of the rapidly decreasing proportion of stocks held.

If we could assume any sort of rational management of the bond portfolio, the yield picture would be significantly better. Liquidation of bonds under rule 6, however, prevents this. It is inconceivable, however, that anyone really would sell 3½% coupons when he still held 2½'s. The only circumstance which might change this situation would be whenever low yielding bonds had been bought at a discount and thus might have some speculative merit. The bond portfolio, nevertheless, is assumed to be bought at par and sold at par. Again, it must be emphasized that the handling of the total portfolio is mechanical and while the results could have been bettered through manipulation, it is not the point of this investigation.

Weaknesses of the Technique

In conclusion, several weaknesses in this formula plan are apparent; some can be corrected easily while others are more fundamental. One of the obvious difficulties is the difference between the DJIA as a statistic as compared to the GNP as a statistic. The DJIA is really an adjusted mean of stock prices which varies daily, while the Gross National Product is an aggregate measure of economic activity.

While the Weston method implies a relationship between a range of stock prices and GNP, it does not imply an exact relationship between any given level of stock prices as compared to GNP. The relationship is secular; but in this application it has been used for short term analysis. Yet Weston implied a short term use when he wrote in 1956, "that stock prices are roughly in line with what one could have expected them to be on the basis of historical relationship."[6]

Over and above the problem of whether the formula really has any validity in intermediate periods as a guide to investment policy, the last and most important question is whether the concept has any validity for the future. While a recent study seems to show that corporate profits of the postwar decade are not out of line with the profits of the 1920's, the evidence is not conclusive.[7] The basic formula therefore, if it is to be used effectively as a means of portfolio management, should be corrected periodically for current data.

CONCLUSION

On the whole the formula plan used here has produced significant capital gains and generally increasing money income. It has not proven to be inflation proof but the quintupled total value of the portfolio has more than compensated for the loss in the value of purchasing power of the money income. The end results of this simple method are excellent. The Weston formula used as a technique for "formula planning" works, and in the art of investments, *only the final results count.*

FOOTNOTES

1. Robert Warren, "Formula Plan Investing," Harvard Business Review, Jan.-Feb., 1953, p. 61.
2. C. S. Cottle and W. T. Whitman, Investment Timing: The Formula Plan Approach, McGraw-Hill, 1953, p. 83.
3. Cottle and Whitman, p. 121.
4. J. Fred Weston, "The Stock Market in Perspective," Harvard Business Review, March-April, 1956, p. 80.
5. Sidney Robbins, Managing Securities, Houghton Miflin, 1954, p. 521.
6. Weston, p. 74.
7. George Terborgh, Corporate Profits, in the Decade 1947-1956, M.A.P.I., 1957.

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HIGHLIGHTS FROM FIVE YEARS OF GROWTH

	1960	1955
GROSS INCOME	$ 216 549 607	$ 145 235 738
NET INCOME:		
Net income before interest and discount charges	$ 126 264 151	$ 79 119 292
Interest and discount charges	71 868 626	24 922 052
Net income from current operations, before taxes	$ 54 395 525	$ 54 197 240
United States and Canadian income taxes	25 524 179	28 012 310
Net income credited to earned surplus	$ 28 871 346	$ 26 184 930
Net income per share on common stock	$5 66	$5 22
Common shares outstanding at end of period	5 100 329	5 015 516
RESERVES:		
Reserve for losses on receivables	$ 22 777 051	$ 16 385 073
Unearned income on instalment receivables	115 503 148	63 488 898
Unearned premiums—Insurance Companies	34 352 457	37 647 870
Available for credit to future operations	$ 172 632 656	$ 117 521 841
Operations shown separately are, briefly:		
FINANCE COMPANIES:		
Gross Receivables acquired	$4 287 919 187	$3 677 241 749
Receivables outstanding December 31		
Automobile retail and wholesale	$ 902 464 966	$ 904 105 274
Mobile home, appliance and other retail and wholesale	213 530 153	136 917 238
Farm equipment retail and wholesale	250 734 096	
Factoring	163 280 198	71 571 058
Business Loans—accounts receivable	106 264 501	69 701 102
Fleet Leasing	47 005 211	
Industrial equipment	58 915 430	9 606 561
Personal or direct loan	158 863 082	51 186 065
	$1 901 057 637	$1 243 087 298
Sundry (principally unclassified items)	6 002 646	4 458 537
Total	$1 907 060 283	$1 247 545 835
Net income of Finance Companies	$ 16 704 890	$ 15 628 251
INSURANCE COMPANIES:		
Written premiums, prior to reinsurance	$ 40 857 351	$ 47 056 317
Earned premiums	38 581 860	38 663 845
Net income (including Cavalier Life Insurance Co.)	9 788 774	5 877 336
MANUFACTURING COMPANIES:		
Net sales	$ 129 200 097	$ 117 992 005
Net income	2 377 682	4 679 343

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UNION CARBIDE

reports for 1960

Sales of Union Carbide in 1960, although a record, increased only slightly over 1959 sales as a result of the generally low level of the economy during most of the year. Earnings, about 8 per cent below a year ago, were the second highest in the Corporation's history.

In view of the strong position of the Corporation's products and processes in the faster-growing areas of the nation's economy, outlays for new plants and for research and development are expected to be maintained at a high level in 1961.

BRIEF SUMMARY OF FINANCIAL RESULTS

	1960	1959
Sales	$1,548,168,000	$1,531,344,000
Net Income	$ 157,980,000	$ 171,637,000
Per Share	$5.25	$5.70
Dividends Paid	$ 108,360,000	$ 108,345,000
Per Share	$3.60	$3.60
Retained Earnings	$ 735,114,000	$ 685,494,000
Current Assets	$ 688,375,000	$ 714,667,000
Current Liabilities	$ 245,927,000	$ 257,204,000
Total Assets	$1,712,938,000	$1,632,250,000

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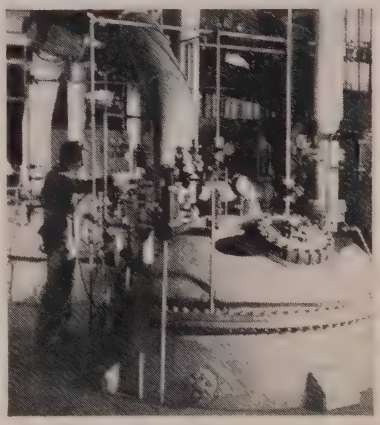
YOU ARE INVITED to visit the atomic energy exhibit in the new Union Carbide Building. Schools and other groups who wish to arrange to see the exhibit, phone LL 1-3761.

$219 MILLION was spent by Union Carbide in 1960 for construction of new facilities. This new installation at Torrance, California, is the first privately owned and operated liquid hydrogen plant in the country.

OUTLAYS FOR RESEARCH are being maintained at a high level to assure growth. In 1960, $86 million was spent for research and development, about $7 million more than a year ago.



52,000 **INDUSTRIAL CUSTOMERS** and distributors purchased Union Carbide products in 1960. Industrial products include chemicals, plastics, carbon products, gases, metals, and nuclear products.

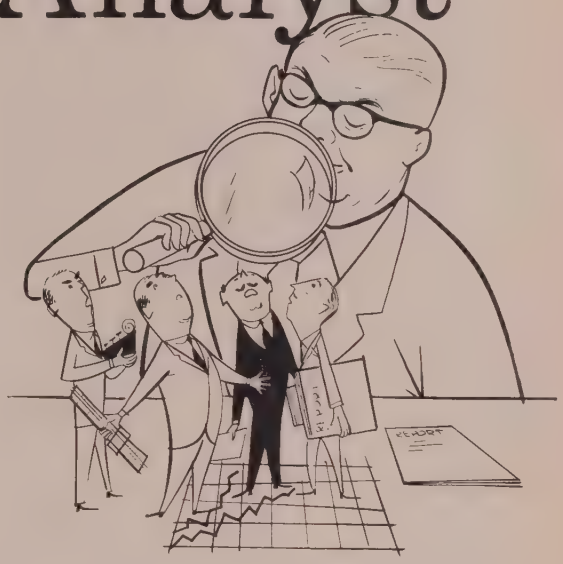
"PRESTONE" ANTI-FREEZE SALES set a record in 1960. Other well-known Union Carbide consumer products are EVEREADY batteries and flashlights, PYROFAX bottled gas, and "6-12" insect repellent.

WAGES AND SALARIES rose to $403 million in 1960. This does not include compensation to those at nuclear installations operated by Union Carbide for the Government. Total employment at the end of the year was 73,000 people.

YEAR'S DIVIDENDS to stockholders amounted to $108 million, or $3.60 a share. A total of over $1.6 billion, or about 67 per cent of net income, has been paid during the 43 years of the Corporation's existence. There are now 128,000 stockholders.

Evolution of the Analyst

by Donald H. Randell



THE ART of investing money is almost as old as is money itself. As man gradually advanced toward civilization, as he learned to produce in excess of his immediate needs, so has he learned to accumulate this surplus for later consumption by himself or others. Money is in effect a method for the storage of goods or services for future use.

Originally a common denominator of deferred exchanges between the hunter, the artisan and the farmer, money's flexibility soon begat a fourth class, the trader. His activities supplemented those of the enterprising men who hoarded foodstuffs and commodities while abundant for later exchanges during periods of scarcity; of others who built toll roads and bridges and ferries in order to exact fees for future use; or the landowners who lent the use of land for rentals of money or shared crops with the tenant farmer.

As the merchant and the banker evolved from such simple beginnings, it was but a step for the enterprising entrepreneur to plan the multiple ownership of vessels and cargoes. Groups of merchants stocked ships for foreign trade and depended on astute captains to exchange domestic surpluses for foreign goods or gold. From such group ventures evolved the publicly owned corporate form that we know today. It has grown and prospered because it is an effective device for channeling many small bits of capital into a single powerful stream. *When this stream is guided effectively, the financial rewards to the many owners thereof are exceeded only by the immense benefits to the public which gains from the cheaper production thereby made available.*

The comingling and the directing of these small bits of capital is known as investment. At first, money was invested by savers on the basis of personal knowledge and independent physical investigation. Experience in such matters was acquired individually, not learned from others. First reputation, then tradition, began to accrue to those who were successful in their efforts. The shrewd investors were able to exact fees for directing the savings of others. There were originally a relatively limited number of individuals in a position to advance funds, and by today's standards only a handful of corporations whose shares were available for acquisition. Published information was meagre indeed and not infrequently was released so as to mislead rather than inform the investing public.

However, despite such shortcomings, America's progress under the capitalistic system of free enterprise was spectacular. Corporate growth and individual wealth were expanding concurrently, and mightily. The public in general began to learn the attraction of incremental gain plus dividend returns as opposed to bank interest. The great war-bond drives of 1917 and 1918 educated many erstwhile savings bank depositors toward the direct ownership of at first war-bonds and ultimately into other bonds and stocks. The post-war boom of the twenties fed on this rush to riches by this new-blown and unsophisticated speculator. Increasing profits were magnified into expanding prices for common stocks; America's first capital gains tax was freezing the early birds into their huge paper profits, and the latecomers had to bid frantically for their right to participate in the New Era.

This era, of course, came to an end in the savage erosion of values that started in late 1929 and didn't bottom out until mid-1932. With this lesson fresh at hand, financial statesmanship by wise men in business and industry, plus restraints imposed by government via the Securities and Exchange Commission, have combined to erect a sounder structure for public investment.

As the number of investible corporations and potential investors multiply in geometric progressions and as governments and municipalities vie with private enter-

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prise for the investors' surplus funds, a brand new profession is arising, *that of Financial Analysis.*

Despite, as set forth above, the long history of investing, the art of Financial Analysis is relatively young. The tools which it employs are new because the raw materials with which it works—business statistics, corporation records and the like—have only, in the last couple of decades, become generally available for study.

Just as technical advances in any field open new vistas, so progress is being made very rapidly at present. At the same time, it must be borne constantly in mind that successful investing can never be reduced to mathematical formulae and that prices are most times arrived at emotionally, not rationally, both at highs *and* lows. *Although judgment, not knowledge is the final criterion, judgment without knowledge is impossible.*

WHAT IS FINANCIAL ANALYSIS?

As set forth in more detail later, there are several facets to the profession of Security or Financial Analysis. While the terms are used somewhat interchangeably, the author feels that *Security Analysis* generally refers primarily to the study of individual or related industry groups of securities and the determination of their relative attractiveness as separate investment media based primarily on the study of their past performance.

Financial Analysis, on the other hand, seems to accent the anticipation of conditions to be expected in the future and the tailoring of investment programs designed to fit the needs of the individual whose funds are being committed now to provide for that future.

Whatever the distinction, and regardless of minor quirks of terminology, an analyst has but a single aim. Essentially, he has to master whatever tools are needed for a sufficient understanding of the financial past so as to be able to anticipate which securities will or will not command a premium later on.

One definition originally included in an article by the author in *The Financial Analysts Journal,* is as follows:

"Ours is a profession, or an art, where the basic curricula is so diverse that a lifetime could be dissipated simply in preparation for a career. The rudiments of accounting, economics, law, history, statistics, and a myriad of other pursuits, all can have a direct bearing upon the present or future desirability of a particular investment. While the presently available courses on Financial Analysis are excellent, and far superior to those of 20 years ago, the completion of such courses will always remain starting points, rather than final objectives. Diverse as is the lore of, for example, the field of economics, so much more so is the study of economics in its relations to a business enterprise operating under changing factors with recurrent emphasis on differing facets of political theory, labor, capital, tariffs, taxes and the like.

"For such reasons, the laboratory in which our formulae are tested must always be in the actual practice of our profession. And, as in the science of eugenics, the ultimate score of success or failure may not be known for a protracted period. Many a short-term success, which mirrored the optimism of the moment, was a long-term error of grievous proportions when a sober second sight had been taken over the tomorrows.

"In few lines of endeavor is it more difficult to adopt and maintain a view differing from that of the majority than in Security Analysis. Not only does the dissident find himself arrayed against an articulate majority, but the market itself—reflecting the actions of the majority—seems to be proving his error, at least for the time being. In periods like this it is helpful to have a large dose of experience to leaven the raw opinion of even the technically competent amateur. Paradoxically, a jaundiced opinion of long vintage can be altered by a fresh look at changing conditions, implemented by the brashness of an unprejudiced beginner who is taking a 'new look.'

"Security analysis seems to divide itself into at least two separate and distinct operations. The first, to a degree mechanical, is the digging out and recording of all the details that are relevant to a particular situation. Here we are cataloguing fact, not opinion, and judgment enters into the process solely in the orderly marshalling of truths.

"The second, and more difficult operation, calls for the exercising of judgment in the highest degree. This is the careful weighing of all the pertinent factors, both short-term and long-term, favorable and the reverse, to determine the most probable component result of the several conflicting effects. From this determination come our recommendations. Stated another way, the work entails a thorough study of the basic factors in detail of a company or an industry in order to get enough perspective to determine *which particular factors* will be of paramount importance for the period in question."

Another yardstick is available for the gauging of the myriad mental skills that form the intellectual equipage of the practitioner of the analytical art. As the profession has grown in prestige, so has its capacity to affect the investing habits (and results) of the public. With due awareness of the personal and group responsibility that must accompany, or even precede, such recognition, *The National Federation of Financial Analysts Societies* is preparing to implement a program of chartering fully qualified analysts who meet and maintain certain rigorous standards of professional competence, technical knowledge and ethical performance.

A committee chairmanned by the able A. Moyer Kulp (Investment Manager of the giant Wellington Fund in Philadelphia) has proposed the following type examination to test the academic posture of prospective certified Financial Analysts.

Part I: This will cover the basic skills and the basic sources of economic and financial information used in security analysis. At least four areas should be covered:

1. Financial Accounting
2. Elementary statistics and financial mathematics

3. The major economic variables and institutions in the American economy
4. Instruments and institutions in the securities markets.

Part II: This will cover the application of skills and information to security analysis. The areas covered by this examination will be:

1. Economic growth and fluctuations
2. Industry and regional analysis
3. Financial and security analysis.

Part III: This will cover the problems involved in setting investment policy and making decisions to carry these out. The areas are:

1. The determination of investment goals
2. Investment timing and portfolio balance
3. The selection of industries and securities.

THE ANALYST'S PROFESSION

Financial analysis is generally understood to encompass several related but vastly different functions.

First, there is the logical arrangement of miscellaneous financial data in orderly sequence so that it can be studied effectively. Just as it is difficult even to count the number of people in a disorganized crowd, so is it difficult to make economic sense out of jumbles of unrelated financial facts. Once the crowd is arranged in numbered rows and files, counting is simplified. Just so is the task of making sense out of corporate history once balance-sheet figures and profit and loss statements are broken down and compared on a per-share and percentage basis. There is a mass of corporate and industry data to be simplified and digested. This specialized statistical function is sometimes described more completely as "the science of Security Analysis." These fundamentals are taught and can be assimilated fairly easily by a willing pupil under adequate tutelage.

Second, the careful study of past financial records in the light of economics already experienced so as to make an informed guess as to future probabilities; under circumstances yet to happen. This process calls for a great deal of experience and judgment, and is difficult indeed to assimilate other than by long periods of practice and apprenticeship. As an example, security analysis might be the study of the past records of a group of coal producers, to build up a picture of earnings or deficits accumulated over the past. This is a picture of *what has happened*. Financial Analysis, on the other hand, could be defined as an estimate of what may yet occur and brings a great many other factors into the picture. For example, what role or roles will coal play in the future, a raw material for chemistry, or as a fuel for factory or power generation? Will other materials easier to come by take its place as mining costs advance, or will modern strip methods become so cheap that coal can reinvade lost and more profitable markets? Will atomic energy supersede the use of coal in electric generating plants, or will the direct reduction of iron ore in electric furnaces obsolete the blast furnace and its rapacious appetite for coking coal?

While it is obviously impossible to guess all such answers in advance, *an orderly and careful process of estimating probabilities, based upon a sound knowledge of the past, must meet with relative investment success* just as a trained surgeon will save a higher proportion of ill patients than will a witch doctor.

Third. Another facet of Financial Analysis consists of adapting the knowledge of securities into a particular program tailored to fit a specific individual or an institutional need. A young man with a growing family will have a different investment objective than a retired school teacher on a pension. The sound advisor must know tax law—income, gift and inheritance; insurance policies; social security; mutual funds; and the relative advantages and disadvantages of different types of securities. All these are essential in the formulation of sound programs. Also, it is imperative that the advisor not only be qualified to give sound advice, he must be persuasive enough to convince the client of the soundness of the program.

This can be one of the Analyst's most difficult tasks. *Many people who would not dream of acting as their own doctor or lawyer or architect, seem to feel that they are completely capable of handling their own investments with "just a little advice" from the professionals. Nothing could be more illusory, nor, in the long run, more costly!*

Fourth. Technical Analysis. While the three general functions heretofore described dealing primarily with basic values are classed as Fundamental Analysis, there is a large body of so-called Technicians who forecast market probabilities solely from a study of price movements. The venerable Dow Theory, evolved many years ago by the late Charles Dow, stated in effect that successful operations can be based on a study of the amplitude of the ups and downs of the various market averages. The point and figure chartists have evolved a method of discarding minor movements of stocks or averages and feel that they can get a clearer picture of areas of supply and distribution by so doing. Other technicians concentrate on the selection of securities that are outperforming the market, while discarding those whose action is sub-standard.

There is undoubted merit in all of these approaches, and the more successful Financial Analysts generally try to give some weight to each approach in making decisions.

Now, a worker or an expert in any or all of the general fields described may be classed as a Financial (or Security) Analyst. The definition is broad, but the specialization may be narrow. Some analysts concentrate on a single industry or a handful of individual companies only. Others try to keep a perspective by continually surveying a broad field.

While it is difficult to generalize, usually a beginner gets the fundamental tools of accounting, analysis, statistical training and economics at school or college. He then follows a few specialized courses at a school such as the N. Y. Institute of Finance, either at night or by cor-

respondence, usually while employed in a bank or brokerage office. As a Junior Security Analyst, or statistician, he usually works for an experienced man on a few industry groups.

From such a standardized start, the sky is the limit. Some analysts work into investment management; others buy into or are taken in to help run companies they once evaluated. The possibilities are numberless, the potential unlimited, for those willing to learn the trade. And this is a never-ending task. There is one denominator in common between the analyst and the investor he counsels or represents, and that is the net outcome of their joint effort. They cannot succeed or fail separately; the result is mutual. *Where integrity and ability and diligence are combined to effect a prudent and imaginative investment policy, the advisor and the investor benefit together. When these elements are not all present, the clients' capital and eventually the client, disappears.*

In the profession of Financial Analysis (as indeed in all other professions) the best advice is always, in the long run, the least expensive.

Compensations Unlimited

Because the horizon of the analyst or statistician or investment advisor is so broad, so are the potential financial rewards to the successful practitioner, almost in a sense transcending that of any other profession, because it is the ultimate profession. No matter how much wealth can be accumulated by the butcher or the baker in his chosen medium, as he gradually withdraws or retires or expires, a fiduciary takes over. Either a wise one of his own selection who retains and compounds the patiently accrued assets, or a poor one or the untrained owner himself who presides at his own gradual liquidation. (Liquidation in this sense is used as reflecting purchasing power, not simply dollar amounts, which are relatively easy to conserve via bonds or banks).

Another priceless consideration from this career is the compound interest it consistently yields to the able adherent. As physical stamina drains away, or manual dexterity fades with time or tribulation, many occupations cease to reward. But financial acumen sharpens with the perspective of added experience, a man's mind never grows old. A Rockefeller, a Ford, an Edison or a Churchill gains in wisdom as the years roll by.

A more gratifying if less tangible psychic reward accrues to the dedicated analyst. In large measure, the continuation of our way of life depends on his competence. *The American system of dynamic capitalism is no more than the satisfaction of human wants through the flow of goods and services impelled by the competitive price system under free enterprise.* Our socialist and communist protagonists decry this freedom and postulate that society as a whole must own and plan and control and dole out to the regimented individual his "fair share." The greatest economic indictment here is the obvious truth that the automatic self-regulation of the supply-demand relationship of the price system is superseded by the cumbersome bureaucracy of the planned economy. More umpires than players never made a ball game, just as more policemen than workers doesn't produce goods.

Consequently, the function of the channeling of free funds into productive enterprise is as stimulating to the economy as it is rewarding to the investor. *On the other hand, the wasteful diversion of capital through incompetence or chicanery is doubly harmful. It not only penalizes sound growth with an attendant disservice to all, but it earns for capitalism an undeserved black eye.* A worker who is cheated of his savings is in no mood to make fine distinctions as to the cause of his agony and is all too prone to blame Wall Street or the system rather than his own poor selection of advisor.

While the Securities and Exchange Commission has gone a long way toward making information available to the professional investor, it *cannot compel* the exercise of good judgment by the speculator. It takes patience to dig out relevant facts and a rare competence to understand them that is far beyond the casual ken of the amateur, be he in or out of Wall Street.

Personal Qualifications

Because of the vast scope of the various knowledges that must be assimilated as precedents to the formulation of sound investment techniques, some aspect of the field of analysis is open to almost any candidate. The chemist, the physicist, the geologist—all posses scientific knowledge that is fundamental to the solution of certain problems of evaluation. The historian, the political scientist and even the psychologist—sometimes particularly the psychologist—can supply the key factor in the assessment of a probable result. The mathematician and now even the cyberneticist, (one who determines answers by computer) is called on to cut through the ever-deepening piles of paperwork that are accumulating as the issue of our body economic and politic. Through this maze of disorganized data must move managers trained to sort the wheat from the chaff and pick out the thread of evaluated continuity which is the real goal of this search for knowledge.

Perhaps the most valuable qualification of the successful analyst is (1) *the tenacity to ferret out the most obscure details of the problem he is attempting to unravel;* (2) *the ability to select the one salient factor that transcends all others in importance under the specified circumstance; and finally* (3) *to discard all extraneous and irrelevant ideas in order to reach, without prejudice or wishful thinking, a logically selected probable outcome.*

Because the abilities described above are not a function of age or sex, men and women of any maturity, and with diverse educational backgrounds, can attain prominence in the profession. An aptitude for hard work, intellectual curiosity and an open but orderly mental process are the primary prerequisites.

The author, in light of experience gained through three decades of practice and performance as an analyst, has certain strong personal convictions that *the*

role of the individual analyst or advisor has long since become obsolescent. While brains and ability never go out of style, the erstwhile trickle of corporate information that must be absorbed and oriented prior to constructive use has, in a geometric progression over the past few years, freshened into a torrent. No one man, however talented, can keep abreast of all available data. Clearly, modern investing has developed into a job for a skilled and coordinated team of analytical experts.

Permanence of the Profession

In choosing the planning of a career, it is wise to look ahead and estimate the probable fruits of that choice as they may eventually appear in retrospect from the vantage point of the future. Mention has already been made of the ample opportunities to the capable analyst for psychic and financial rewards, but neither of these can persist in a vacuum. What are the odds on obsolescence of the profession itself? Will the intelligent management of money with its myriad satellite functions gradually drift into just a few strong hands? Could it be that the bulk of investible corporations will merge into a small circle of timeless giants that sop up all available capital and tower so high and broad that the seeds of competitive potentials cannot germinate in their sunless economic shadow?

This scarcely seems likely because the pattern of business by its very nature is subject to ceaseless change—at least under our free enterprise system where there *can* be evolution. Any successful deviation from the normal attracts imitators until yesterday's innovation is today's standard (and probably tomorrow's epitaph for the lazy or the smug). The persistency of change is the constant, not the variable. But the differences come in the details, not in the generalities. Man's taste changes but not his appetite; desires vary but needs persist. And as the craftsman acquires better tools he must upgrade his skill in their employment.

This writer harks back to his college training in the early thirties for a commission as a second lieutenant of field artillery. The principles of warfare were then enunciated through the skillful use of the Springfield bolt action rifle with the bayonet, supported by hand-carried machine guns and batteries of horse-drawn 75 millimeter cannon. Battlefield mobility depended on the cross country speed of a team of horses dragging a caisson; communications networks were shouts or semaphore until telephone wire could be strung by hand! A scant decade later, as General Patton's Third Army crashed across middle Europe, nothing was left but the shouts! The Garand, the howitzer, the walkie-talkie, the jeep and the tank had superseded the cruder weapons of yesteryear. And, even then, Hiroshima lay just over the horizon with its new denominator to revise all existing equations.

So, while the techniques differ, tactics do not change. The principles that make for victory in combat remain inviolate just as the skills that must be mastered to achieve a continued success in the investing of money will not differ so long as human nature remains the same.

One of the best books ever written as a guide to profitable market operations, "The Battle for Investment Survival," by Gerald M. Loeb, is not, strictly speaking, a book at all, but a collection of axioms and timeless truisms that were orginally set down over a period of many years. The text illustrates countless examples of the methodology of making and not losing money in security trading which are valid, and will so remain, despite the fact that the actual media concerned may by now have lost either their original corporate entity or else may not have yet been incubated.

The point (admittedly a complex one) that must be understood by the reader is that *successful investing, in the final analysis, means a superior ability to anticipate the favorites and fetishes of tomorrow in time to acquire them cheaply today. Or, conversely, to dispose of the potential lemons while the peachbloom still remains.*

Unfortunately, blind reliance on past performance as a guide, without a sound understanding of the reason behind that performance, can and usually will boomerang. The Biblical parable of the ten talents postulates one of the oldest known problems of investment. Still, how many money managers yet today bury funds committed to their care in the barren soil of obsolescent industries whose sole appeal is the reflection of a once glamorous past? Or perhaps, conservatively invested in a bond portfolio which as a permanent position in this era of creeping to galloping inflation can only promise a varying degree of erosion.

Clearly, until and unless the millenium arrives, the foreshortened timing of accelerated change should put a constantly increased premium on the services of those practitioners of the investing art who are capable of meeting the challenge of tomorrow.

EXAMPLE—AMATEUR VS. THE PROFESSIONAL

Most of our comments to date have dealt with the more abstract phases of investment. While the subject's complexities do not permit too simplified an illustration, a few examples of widely-held fallacies may be helpful.

1. *Good or bad stocks*: How many times do you hear these terms. Yet there is no such thing as a "good stock." While there are good and bad *companies,* stocks are obviously either under-valued, over-valued or fairly priced. Frequently, shares of beautifully managed companies sell at prices that seemingly discount the hereafter; while stocks of badly-run companies are sometimes available at huge discounts that may soon attract a more astute stewardship and shrewd investors!

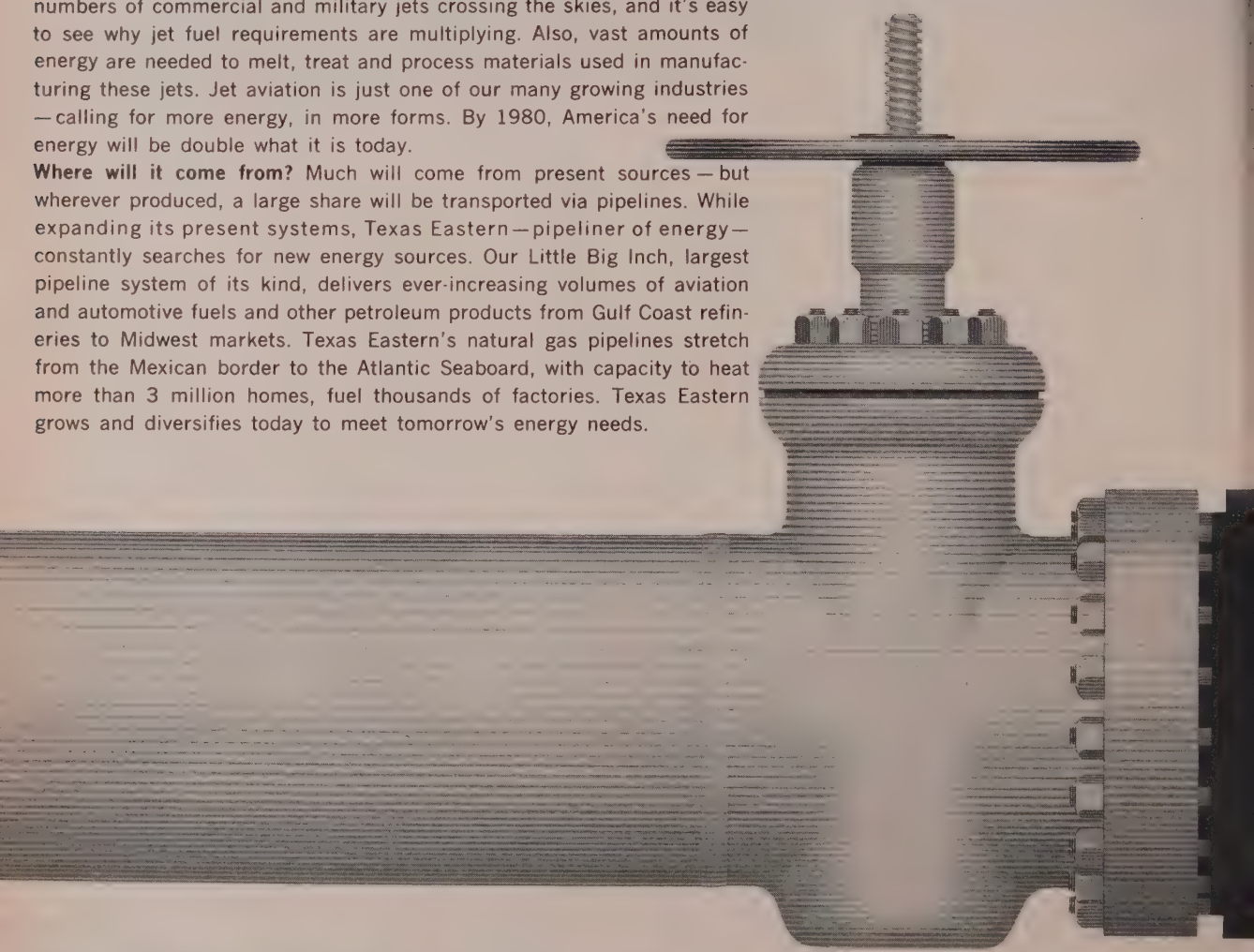
2. *Investment or Speculation*: "Speculation" is regarded as a nasty word in many circles, something like "dipping into principal" in New England, but most people define a speculation as the type of equity one buys. *My own belief* is that it is not what one acquires, but one's intent in purchasing that governs. For example, *speculation* in government bonds is common by oversubscription or taking down on a thin margin for a

FORECAST FOR ENERGY:

More and bigger jets will help thrust America's energy demands twice as high by 1980

Power to spare! Today's large jetliner has more than enough thrust to push 100 tons at 600 miles per hour. Consuming over 2,000 gallons of fuel per hour, a big jetliner uses more than 11,000 gallons on a single coast-to-coast flight. Consider this rate of consumption and the increasing numbers of commercial and military jets crossing the skies, and it's easy to see why jet fuel requirements are multiplying. Also, vast amounts of energy are needed to melt, treat and process materials used in manufacturing these jets. Jet aviation is just one of our many growing industries — calling for more energy, in more forms. By 1980, America's need for energy will be double what it is today.

Where will it come from? Much will come from present sources — but wherever produced, a large share will be transported via pipelines. While expanding its present systems, Texas Eastern — pipeliner of energy — constantly searches for new energy sources. Our Little Big Inch, largest pipeline system of its kind, delivers ever-increasing volumes of aviation and automotive fuels and other petroleum products from Gulf Coast refineries to Midwest markets. Texas Eastern's natural gas pipelines stretch from the Mexican border to the Atlantic Seaboard, with capacity to heat more than 3 million homes, fuel thousands of factories. Texas Eastern grows and diversifies today to meet tomorrow's energy needs.



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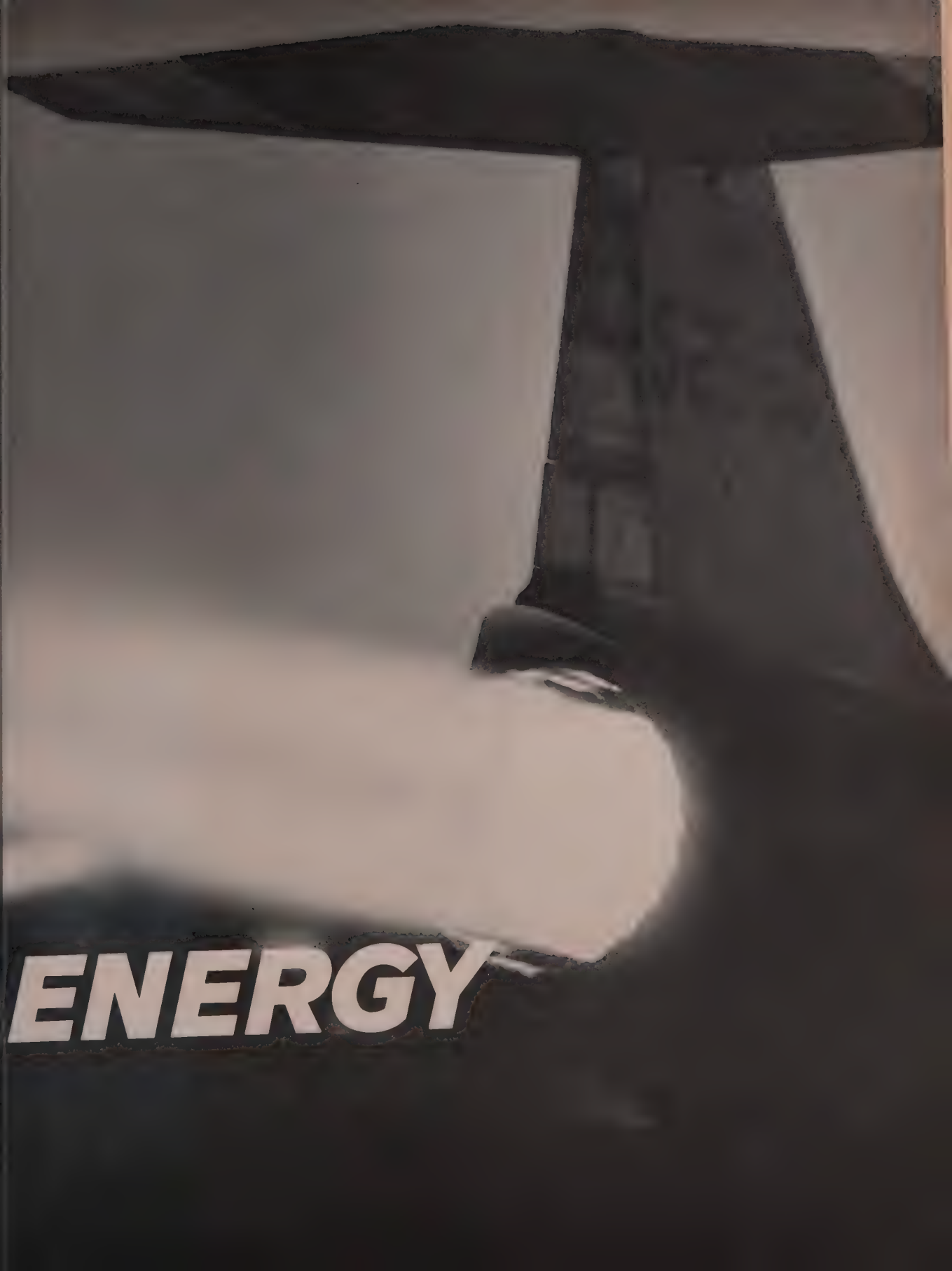
ENERGY

quick profit. Or one can—should he anticipate long range improvement in, for example, the Canadian oil picture—prudently lay in a store of low-priced "cats and dogs" as a sound *investment* over the long run in anticipation of an eventual substantial appreciation as some of the long shots grow and prosper.

3. *Market too high or too low*: This is doubly a difficult statement to support. First, the general comment refers to the level of various averages. While individual stocks and certain groups may, by most analytical standards, be out of line, there are usually other stocks and groups unrealistically priced in the other direction. But as to averages, who can know? And who can ever know? Prices are set by emotional humans, in alternating atmospheres of hope or fear. Who can guess in advance just how optimistic some one may become looking at a prospect through rose-colored glasses. And who can estimate how rampant the pessimism when everything seems to be falling out of bed; stop-loss orders are being touched off; and margin calls are ringing out like church bells on New Year's Eve!

Some unknown Wall St. wit coined the expression that attempting to outguess the market is, like second marriages, a triumph of hope over experience. But there yet seems to be a fullsome plenty willing to try each pursuit.

4. *You can't lose by taking a profit*: How common is this attitude, and how costly! The avid taker of small profits is usually reluctant to accept the small losses that are the only palatable ones. Most amateurs (and many who should know better) happily seize on each small gain, but sit with the small losses "till it comes back" and generally wind up with one red figure that blots out a dozen black ones.

5. *I did very well by myself*: The self-delusion resulting from a little success. Many investment managers seemingly join the non-professionals in this reasoning. The erosion of purchasing power usually more than offsets the nominal increases resulting from dilettante dabbling in the market. Based on Standard and Poor's 500 stock average, 500 representative equities are currently priced at 6.1 times their 1941-1943 prices and have doubled since mid-1954. This does not of course begin to tell the whole story. Despite this doubling of prices for stocks, most bonds are now below the prices that reflected 1954 low interest rates. However, some stocks are now selling substantially below 1954 average prices; e.g., lead and zinc.

The market's last low point for the 500 stock composite was reached in October of 1957. The market then rallied almost 50% till August of 1959, but the index of crude oil producers was lower at the end of that period than in the beginning.

And so it goes! These are not isolated examples. The stock market is not an average of many companies in many industries all rising and falling in unison as business alternately expands or contracts. Rather is it a constantly moving reflection of hopes and fears, each incident and every day and every hour changing the outlook for and the evaluation of each separate component.

But, the greater the apparent confusion, and the more complicated the task of making sense out of the senseless, the greater the reward for those who do master the art.

THE ORGANIZED SOCIETIES

Additional tangible proof of the great need for trained investment ability is afforded by the meteoric expansion of the profession, both qualitatively and numerically. For example, *The New York Society of Security Analysts* was founded in 1937 by only 20 analysts. There are now 25 separate regional societies, set up in financial centers from New York, Boston, Philadelphia, Providence and Richmond in the East, to Los Angeles and San Francisco in the West; from Houston and Dallas in the South, to Omaha-Lincoln, Toronto and Montreal in the North. Other societies have been formed in Baltimore, Chicago, Cincinnati, Cleveland, Denver, Detroit, Indianapolis, Kansas City, Phoenix, Rochester, St. Louis, the Twin Cities and Washington, D. C., New York (as expected) is the largest and has a membership of more than 2,600, while the total enrollment under the National Federation approximates 6,600.

Moreover, there are Financial Analysts Societies in several European cities (including London, Paris, Amsterdam, Frankfurt and Dusseldorf), as well as in Sydney, Australia and Johannesburg, South Africa. And while these overseas Societies are not yet affiliated with the National Federation, it is hoped that the day is not too far off.

The New York Society made its maiden voyage to Europe in 1959 when a large group of Analysts traveled through England, France, Italy, Germany and Holland interviewing top-level financial and business leaders. Representative company and industrial complexes were visited en route. Another trip has been scheduled for April of this year and there is some informed comment to the effect that a Far Eastern visit is under study.

New York's original schedule of lightly attended bimonthly meetings has long since been stepped up to virtually daily sessions the year round. Scarcely a handful of America's corporate leaders has not yet made an appearance here to outline for a receptive audience his company's present accomplishments (and problems) and aspirations for the future.

Programming has been expanded from the original luncheon sessions to include frequent forum meetings and discussion groups on specialized topics in specific industries. An occasional dinner meeting is scheduled to permit a more thorough exposition of a corporate picture than is possible in the one-hour luncheon sessions.

In 1957, under the auspices of the Education Committee of the New York Society, the management of Socony Mobil Oil Company initiated a lecture series for Analysts which outlined the operations of the Petroleum Industry. The fundamentals of geological exploration,

production, refining, marketing, transportation, and oil economics were carefully explained in relation to the history and prospects for both domestic and foreign branches of this vital business. The innovation was so successful that Socony has repeated the course in different cities several times. Also, similar programs have since been conducted in their respective industries by Daystrom, Inc., Allied Chemical Company, International Nickel Ltd, and a team of Pacific Finance and the Bank of New York on the topic of Finance. Recently, the Martin Company presented a series on missiles and the race into space. Other leading corporations, such as Texas Eastern Transmission Co., have independently arranged similar educational sessions.

The New York Society of Security Analysts, in December 1959, moved into its new headquarters at 15 William Street, just a block from Wall and Broad Streets. The spacious and well-appointed facilities fill a long-felt need and have added immeasurably to the efficiency of the group's operations as well as to the comfort and prestige of the organization.

Under the general supervision of *The National Federation of Financial Analysts Societies,* certain other vital aspects of the profession are being cultivated and coordinated.

Conventions, both on the National and Regional level are offering an ever-widening scope of speakers of stature in industry, finance and government. Field trips, scheduled in conjunction with these gatherings, permit personal inspection of company operations and the opportunity to visit and observe broad cross sections of company personnel.

An *Annual Seminar* of a week's duration has been conducted since 1955 by the Federation in conjunction with the Graduate School of Business of the University of Chicago. The Seminars, addressed by some of the outstanding leaders of the investment fraternity, attracts students who themselves are senior Security Analysts of distinction.

Mention has already been made of the progress being made in the herculean task of planning and pushing to a conclusion the program for chartering accredited Financial Analysts.

The Financial Analysts Journal. Perhaps the most visual indication of the enhanced status earned by the analyst over the past decade-and-a-half is evidenced in the pages of *The Financial Analysts Journal.* So sound was the groundwork laid by the original Editorial Board (headed by the late great Helen Slade) of this publication in its first issue on January 1, 1945, and so enlightened the policies of their successors under the guidance of Editor Pierre R. Bretey and Business Manager John Stevenson, that the Journal has never stopped growing in size or quality. Circulation is up from 700 to 12,000, the modest 78-page Volume I, Number I Quarterly issue, has been expanded to an impressive bi-monthly publication run by a full-time highly capable managing editor. And current plans envision publication on a monthly basis in the near future. The editorial content disseminates the latest thought on investment techniques and procedures. The recent offer of a reprint of Allied Chemical's Educational Series to Journal readers has to date elicited requests from 27 different countries.

Internally, the profession of Financial Analysis is constantly expanding and improving; externally, as the product improves, the demand for guidance progresses at an even faster pace.

In this building... a new "first"

...in Columbia Gas System's constant search for progress

A number of "firsts" in the business of delivering natural gas have been recorded by companies of the Columbia Gas System. Here is another—one of the highlights of 1960 operations.

On November 15, 1960, the 10,500-horsepower thrust of an aircraft jet engine was harnessed to help pump 666 million cu. ft. of natural gas a day to help serve 15 million people*. This is the first time an aircraft jet engine has been used as a source of stationary power. In cooperation with Pratt & Whitney and Cooper–Bessemer, it was installed in this compressor station near Clementsville, Ky., on the lines of Columbia Gulf Transmission Company, a System subsidiary. With nine other Columbia Gulf compressor stations, it moves gas from the Louisiana Gulf Coast to other Columbia System companies which, in 1960 delivered a total of 792 *billion* cubic feet of gas to homes, industry and other public utilities.

IN 1960, THE SYSTEM ALSO . . . equipped more compressor and field pumping stations with automatic controls . . . built an entire distribution system for an Ohio village with plastic pipe . . . began operation of the first leg of a microwave communications system . . . instituted new refinements in machine accounting and centralized billing procedures.

These and many more innovations were completed or initiated in 1960 in Columbia Gas System's constant search for new, better and more economical ways to serve customers.

For the full story of the System's progress, write for the Annual Report for 1960.

**The estimated 1960 population of the area served by Columbia System companies in Ohio, Pennsylvania, New York, Virginia, West Virginia, Maryland, Kentucky and the District of Columbia.*

THE COLUMBIA *Gas* SYSTEM, INC.

Columbia Gas System Service Corporation, Columbia Hydrocarbon Corporation, 120 East 41st Street, New York 17, N. Y. **CHARLESTON GROUP:** United Fuel Gas Company, Amere Gas Utilities Company, Atlantic Seaboard Corporation, Columbia Gas of Kentucky, Inc., Virginia Gas Distribution Corporation, Kentucky Gas Transmission Corporation. **COLUMBUS GROUP:** The Ohio Fuel Gas Company, The Ohio Valley Gas Company. **PITTSBURGH GROUP:** The Manufacturers Light and Heat Company, Columbia Gas of New York, Inc., Columbia Gas of Maryland, Inc., Cumberland and Allegheny Gas Company, Home Gas Company / Columbia Gulf Transmission Company / The Preston Oil Company.

Public Offerings and Pre-Filing Publicity

by Bruce E. Balding

ONE OF THE MOST INTERESTING case histories of a regulatory effort by the Securities and Exchange Commission began to unfold in September, 1958 when the Arvida Corporation, a Florida land development company, decided to "go public." The underwriters held a press conference prior to registration of the new securities with the S.E.C. The Commission's reaction was swift.

The S.E.C. opined that the underwriters were in violation of Section 5(c) of the Securities Act of 1933 which prohibits the use "directly or indirectly" of "interstate commerce or of the mails to offer to sell . . . through the use or medium of any prospectus or otherwise any security, unless a registration statement has been filed as to such security. . . ."

But, before examining the Commission's interpretation of this prohibition as applied to Arvida, let us briefly outline this most interesting sequence of events.

In 1958, Arthur Vining Davis, former Chairman of the Board of the Aluminum Company of America, and an energetic millionaire at 91, decided to incorporate approximately 100,000 acres of Florida real estate that he had purchased between 1947 and 1958. He decided to sell two and one half million shares of the new company to be named Arvida. To aid in this undertaking Mr. Davis enlisted the service of a syndicate of investment banking firms headed by Dominick & Dominick and Carl M. Loeb, Rhoades & Co.

During July, a meeting was held in Miami to work out the various aspects of the contemplated public offering. At this meeting it was noted that there was some concern in Florida real estate circles as to the ultimate disposition of the Davis properties. Stanley Grant, a partner of Loeb, Rhoades, submitted a proposed press release which included some description of the "giant spread of Davis' lands" and mentioned the proposed underwriting. This was revised by Mr. Davis' representatives to state that the major portion of his land holdings were to be brought into the Arvida Corporation. Arvida in turn would arrange to obtain the capital for development of the properties. No mention was made of a public offering, underwriting, or underwriters. The substance of this release appeared in various Florida newspapers.

This was in July. By September the final arrangements for the financing had been made and it was decided that another press release should be issued. Again, Mr. Grant drafted the text which was approved by Arvida; representatives of Mr. Davis; Dominick & Dominick; and counsel for the proposed underwriters. However, no financial or public relations counsel was consulted except for the purpose of arranging for the distribution of the release in New York City. The release, issued by Loeb, Rhoades, stated that Arvida would be provided with $25-$30 million additional capital through a public offering, and that the new company would have assets of more than $100 million "reflecting Mr. Davis' investment" together with the public's investment. The release referred to both a public offering scheduled within 60 days and to the transfer by Mr. Davis to Arvida of more than 100,000 acres "in the area of the Gold Coast." Three Florida counties were named, and references were made to "undeveloped lands" and to "operating properties."

Officers of Arvida were anxious to have the release issued promptly, so a press conference was held in the offices of Loeb, Rhoades.

Modus Operandi in Question

At the conference, Mr. Grant refused to answer reporters' questions concerning Mr. Davis' reasons for establishing Arvida, the extent of mortgage indebtedness, the capitalization of the new company, its balance sheet, and the control of the corporation. However, he did provide certain information about Mr. Davis and his career. In response to a reporter's question about whether Arvida was to be a "rich man's stock," Grant replied that the stock probably would be sold by the underwriters to the public at a price in the vicinity of $10 or $11 per share.

The substance of this release and the information generated by the press conference appeared in three New York newspapers on Sept. 19th and understandably "in numerous other news media throughout the country," explained the S.E.C.

The Commission then undertook a "limited survey" during the two business days of Sept. 19th and 22nd. This survey disclosed " . . . buying interest in Arvida stock attributable to this publicity on the part of the brokers, dealers and the investing public to the extent of $500,000. It was later ascertained that during these two business days a total of 101 securities' firms were recorded by Loeb, Rhoades as expressing an underwriting interest in the offering."

According to the S.E.C., the registrants received at least 58 expressions of buying interest from the public before Sept. 30th.

From these facts the Commission

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concluded that the underwriters were in violation of Section 5(c) of the Securities Act of 1933 which prohibits public offerings of securities before a registration statement has been filed with the S.E.C. The Arvida registration statement was filed Oct. 27th, or about six weeks after the Sept. 18th press release and conference.

Ignoring the question of whether the Congress and the Commission had provided a clear definition of a pre-registration "selling effort," let us focus on the interpretation of the Courts and the Commission of the facts cited above.

Court Denies Injunction

The S.E.C. commenced an action in the U.S. District Court for the Southern District of New York seeking a preliminary injunction against "further violations," of the Securities Act.

This injunction was denied. The Court stated:

"There is no dispute that certain of the defendants have caused newspaper publicity about forthcoming plans of Arvida Corp., which had not yet filed such a registration statement. This issue is whether such a activities amounted to an offer to sell or dispose of the securities, or a solicitation of an offer to buy it.

"On the other hand, the press release, press conference and other activity amounted to a release of legitimate news items of general financial interest. They are not in the same category as paid advertisements though their effect was substantially similar. As much damage could arise from the concealment of such facts and the permitting of rumors to get out of hand as could arise from any honest announcement of the facts as they may exist."

The Court also noted:

"This court knows of no case holding the mere release of information of genuine financial significance to so constitute an offer to sell or a solicitation of offers to buy. The defendant's motion to enjoin the S.E.C. from continuing the administrative procedure must be denied for lack of jurisdiction since there is no indication that they have exhausted their administrative remedies under the S.E.C. Act."

In the reargument, the S.E.C. maintained: "The publicity has stopped but the chain reaction goes on. It's like a grass fire once the match has been dropped."

The Commission cited the "extremely optimistic" tone of the release which it believed would have the effect of "panicking" buyers to purchase Arvida.

Attorneys for the underwriters denied that the press conference constituted a public offering. They stated that Mr. Grant's statement of the approximate offering price had been inadvertent, and that the two principal underwriters had been serving the public interest in making the release "in order to suppress rumors that were growing in Florida." Apparently it was rumored that all of Mr. Davis' real estate properties might be thrown on the market in the event of his death. The underwriters maintained that the release was designed to allay these fears.

On Sept. 12, 1958, the parties stipulated that final judgment should be entered permanently enjoining defendants from engaging further in such activities, (SEC v. Arvida Corp., 169 F. Supp. 211 (S.D.N.Y. 1958).) The District Court did not decide whether the press conference constituted an offer to sell Arvida stock, although it stated:

"Under the circumstances of this case, the furnishing to the press by representatives of the issuer and the underwriters of written and oral communications concerning the forthcoming public offering of the issuer's securities, thereby causing the public distribution of such information through media, constituted an 'offer to sell' such securities within the meaning of Section 2(3) of the Securities Act, and the use of a 'prospectus,' as that term is defined by Section 2(10) of the Securities Act."

The phrase "under the circumstances of this case" enabled the judge to reconcile this with his earlier denial of a preliminary injunction.

Arvida filed a registration statement with the Commission on Oct. 27; a material amendment was filed on Nov. 25th; a further amendment on Dec. 2; and the registration became effective on December 10, 1958.

The Nov. 25th and the final prospectuses disclosed certain material facts in regard to mortgage debt, Mr. Davis' equity in Arvida, development expenses, inaccessibility of part of the property, percentage of property below the "flood criteria" established by local authorities, fill and drainage expenses, losses on properties since their acquisition, etc.

These amendments were enlightening, although it is not uncommon for a company's registration statement to be amended frequently in response to letters of deficiency by the Commission.

Information Withheld Says SEC

In discussing the Arvida press conference, the Commission noted that a great deal of pertinent information was withheld from reporters that was included in the registration statement. Certainly any press conference is designed to insure that reporters place the most favorable interpretation upon the news released. The fact that certain reporters' questions were not answered was a key consideration. However, time alone precludes as complete detailed disclosure as might be expected in a formal prospectus.

The Commission maintained that the New York Arvida release and press conference were not necessary in order to dispel rumors circulating in Florida real estate circles as the earlier Miami press release had accomplished this purpose. The Commission noted that the release of the approximate offering price was strictly prohibited—an idea the registrants did not dispute. Also, the Commission noted that the registrants could gain as much prestige, another argument advanced, by waiting until the registration had become effective.

It is perhaps of interest to note that the Arvida defendants argued

that pre-registration publicity is necessary as a practical matter to aid in determining the probable public reception of an issue. However, in 1954 the Securities Act was amended to permit oral solicitation during the waiting period "to give the underwriters . . . greater latitude in testing out the market." (H.R. Rep. No. 1542, 83d Congress, 2d Sess. 12 (1954).) For this reason, it would appear that the Congress has already provided for market testing by underwriters to the extent that it feels this is in the public interest.

Obviously the Commission is on the horns of a dilemma. It cannot freely invite pre-registration publicity without leaving the door open to abuses by parties actually trying to evade the intention of the Act. And, at the same time, it cannot define what is permissible and what is not because each new situation is unique.

In a proxy contest the Commission has taken the position that anything that is said by either party engaged in a fight for the control of a corporation in the newspapers, radio, and television, is subject to its rules of fair disclosure just as much as direct mailings to stockholders of record are also subject to its rules. The Commission has put both management and opposition on warning that their statements in newspapers, etc., will be examined after they appear. However, the Commission makes no attempt to check written or oral statements in advance even though press releases, speeches and radio and TV scripts must be filed with the Commission promptly after their use.

'Noblesse Oblige'?

In the Arvida case, the S.E.C. extended this rationale to protect prospective as well as actual investors. In a proxy contest anything said in public may result in the granting or withholding of a proxy. The investing public is entitled to protection against colored or distorted information. However, by objecting to pre-registration publicity in the Arvida situation, the Commission was not then protecting investors from taking precipitious actions based on

misinformation because no securities were yet available for public subscription.

The S.E.C. has taken the position that a proxy contest is not a political election and that wild charges and invective must not be permitted. In short, no attempt is made at prior censorship, but the test of fair disclosure is applied to whatever *is* said. However, if the Commission treated pre-registration publicity in this same way, without defining what it felt was permissible publicity, it would be tantamount to prohibiting such publicity because no registrant would dare risk the Commission's wrath.

Consequently, it would seem that the entire controversy resolves itself into a consideration of whether the S.E.C.'s interpretation of Section 5(c) of the Securities Act is a reasonable one. In short, did the Arvida press release and conference constitute a *de facto* securities offering within the scope of the Act's prohibitions?

The Issue of 'Offer to Sell'

In the past, the Commission has decided the question whether a pre-filing communication constitutes an "offer to sell" on a case-by-case basis, taking into account the content and purpose of the communication and its overall effect. The issue of what constitutes an "offer to sell," within the meaning of the statute, has only been litigated once before in *S.E.C. vs. Starmount,* 31 F. Supp. 264 (E.D. Wash. 1939). In that case the Court held that published solicitations of indications of possible acceptance of stock in a corporation yet to be formed constituted an offer to sell.

The Commission maintains that the danger to investors from publicity prior to registration is great, and even greater where an issue has "news value." In such cases it is easier to whip up a "speculative frenzy" through publicity.

The Commission believes that its interpretation of what constitutes a pre-registration selling effort in no way restricts the freedom of the news media to seek out and to publish

news of financial interest. The Commission stated that it has no desire to restrict "journalistic enterprise."

Obviously, this is a fine line since any anonymous telephone call is sufficient to result in press inquiries. At this point, who is to determine the inspiration for the publicity? In any event, it is clear that the S.E.C., in its ban on pre-registration publicity, has carved out for itself a territory that is difficult to administer.

No Real Precedent Set

In its opinion, the Commission states that it will not look with disfavor upon a corporation's pre-registration publicity if that publicity confines itself to routine and normal announcements of general institutional interest. However, as a practical matter any announcement that finds its way into the press, even though totally unrelated to the underwriting, can aid in "conditioning" the market.

The Commission tempers its findings with the realistic understatement that, "Difficult and close questions of fact may arise as to whether a particular item of publicity by an issuer is part of a selling effort or whether it is an item of legitimate disclosure to investors unrelated to such an effort."

No real precedents have been set by the Arvida history. We can only speculate as to what Arvida presages in the future. And, at the same time, we can be reasonably certain that no underwriter is going to run the risk of the Commission's wrath with pre-registration publicity of any kind in the immediate future.

In looking at Arvida's broader implications, perhaps one of the most significant parts of the Commission's opinion is contained in a little footnote which reads in part, . . . "underwriters are in the business of distributing securities, not news."

This seems to be a fairly direct concept of the function of investment bankers. It is perhaps not unreasonable to suggest that a large portion of New Deal legislation, including the Securities Act itself, came about from a recognition that the implications of the activities of the financial community were far wider in scope than any concise description of its obvious functions.

In a highly complex, industrial society whose efficiency seems to depend upon large aggregations of corporate power, responsibility is assured by a continual public scrutiny. While government regulations may be used to accomplish the same purpose, normally this has been rejected as a permanent solution.

Arvida is only one case, and admittedly the Commission's words about underwriters not being in the business of distributing news are isolated. Nevertheless, to the extent that a court might use this test in determining motivations for press releases, this would seem to run in the face of the prevailing stream of contemporary thought.

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Investment Companies: Performances vs. Charges

by Wayne P. Hochmuth and Arthur S. Bowes, Jr.

PART TWO: A REFINED APPROACH FOR MEASURING PERFORMANCE

In Part One of this article (which appeared in the January-February 1961 issue) the various problems encountered in measuring investment company performance were considered. It was emphasized that although a number of services now publish information on investment company performance, the methods used by these services have defects which detract from their usefulness to the investor and the Financial Analyst. It was also pointed out that the results developed by use of the various methods often are not only difficult for the average investor to understand, but in some cases tend to be misleading. The specific problem areas explored in Part One were as follows: (1) purchasing and closing charges; (2) Federal income and capital gain taxes; (3) reinvestment assumptions; (4) inter-company comparisons; (5) time periods; and (6) external yardsticks.

The purpose of Part Two of this article is to present a refined approach to measuring investment company performance which is designed to eliminate or alleviate many of these problems and, thus, provide the investor with a close approximation of actual results. The results of applying this method to several of the larger and better known mutual funds and closed-end investment companies will then be presented, and an attempt will be made to answer the question: Do the performances of investment companies justify their charges?

THE APPROACH FOR measuring investment company performance which follows is not so much new in substance as in form. For the most part, it represents the result of sifting through, combining and—where necessary—refining or adding to presently used or previously suggested methods for evaluating investment company performance.

For reasons discussed in *Part One,* any method designed to measure performance accurately from the investor's point of view should incorporate the following features:

1. Results should be adjusted to reflect the effects of all significant sales fees; these include mutual fund "load" charges and redemption fees, and brokerage commissions in the case of closed-end investment companies.

2. Recognition should be given to the differential between ordinary income and capital gain taxes.

3. Assumptions concerned with the reinvestment of ordinary income and capital gain distributions should be made with consistency. Furthermore, methods which assume reinvestment of either or both types of distribution without taking into account the taxes which must be paid on those distributions provide performance results which are deceptively overstated.

4. When measuring performance over a period of years, an attempt should be made to overcome the possible distortions that can result from using a particular base year.

In essence, then, a method for measuring performance which has the characteristics enumerated above will permit ready comparisons of *all types* of funds on a common and realistic basis, showing what the investor actually would have achieved over a period of years. If an investor is interested solely in balanced funds, he can determine which balanced funds have tended to be the best performers over a period of years. At the same time, however, he can get a fairly accurate picture of the amount of total gain he may be sacrificing by investing in a good balanced fund as opposed to a good aggressive common stock fund or perhaps a leveraged closed-end investment company; i.e., just what is the cost of obtaining a relatively greater degree of safety?

Proposed Method

The exhibit on p. 84 illustrates the proposed method for measuring the total gain received on a $1,000 investment over a ten-year period in a hypothetical mutual fund. In this case, the assumption is made that the investor is in the 22% tax bracket, and that the fund charges a typical sales fee of 7½% at the time of purchase, and also a redemption fee of ½ of 1% at the time of sale. Also, it is assumed that all distributions are taken in cash and not reinvested in fund shares.

The method illustrated here is applicable to both mutual funds and closed-end companies. We are measuring performance from the *typical investor's* point of view, and he is primarily interested in three questions: (1) what did the original investment cost; (2) what amount of distributions was received; and (3) what was realized upon sale? Therefore, it is quite reasonable to measure closed-end investment company performance in terms of market price instead of net asset value, and compare the results with mutual funds. Obviously, the fact that closed-end companies frequently employ

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leverage in their capital structures, and seldom sell at their net asset value, complicates the problem of measuring *management* performance. In measuring results for the investor, however, performance is synonymous with the return on the total funds invested.

The mechanics of measuring closed-end investment company results are identical to those illustrated here for mutuals with the following exceptions: market prices are used in lieu of asset values; and standard brokerage commissions are substituted for "load" and redemption charges.

In addition to giving full recognition to the eroding effect which taxes, purchase charges and brokerage commissions have on investment results, and permitting comparison of all types of funds and investment companies, this method has another advantage. The individual components of "total gain" (i.e., ordinary income dividends, capital gain distributions and appreciation in value of the shares themselves) are figured separately, thus enabling comparisons between funds on several different bases. The investor is therefore in a better position to select that fund which has had the best performance in terms of his specific needs.

It is possible, for instance, for two funds to register an almost identical amount of total gain over a period of time. In one fund the total amount of gain may consist primarily of cash distributions, while total gain in another fund stems predominately from growth in asset value per share. If the investor is primarily interested in current income, the distinction between the various components of total gain provided by this method can be an important tool for making the best selection.

Stockholder Taxes Considered

In the example used to illustrate the proposed method, it was assumed that distributions were taken in cash and not reinvested in additional fund shares. This represents a choice of the authors, and not a limitation of the method. As pointed out in *Part One*, statistics published by the National Association of Investment Companies indicate that over 58% of all mutual fund shareholders have incomes of under $7,500 per year. Furthermore, fully one-third of all shareholders have annual incomes of under $5,000. These figures strongly suggest that regular reinvestment of all distributions would not be characteristic of the typical fund shareholder.

However, the investor or Financial Analyst desiring to obtain performance results which reflect reinvestment of distributions may do so with the method proposed herein. Since taxes are taken into consideration, the results thus obtained are based purely on *re*investment and not *incremental investment*. As noted elsewhere, taxes must be paid on dividends whether they are taken in the form of cash or additional shares. Therefore, methods which assume reinvestment of dividends without tax adjustments are actually assuming reinvestment of net dividends after taxes *plus* an additional investment equal to the shareholder's tax liability on dividends received.

EXHIBIT

Initial Investment	$1,000	
Less: purchase charge	75	
Initial Asset Value	$ 925	
Ordinary income dividends	772	
Less: 22% tax thereon	170	
	$ 602	
Add: 4% dividend tax credit	31	
Dividend income after tax		$ 633
Capital gains distributions	$ 264	
Less: 11% tax thereon	29	
Capital gains distributions after tax		235
Total Cash Distributions		$ 868
Ending asset value	$3,044	
Less: redemption fee	15	
Liquidating value	$3,029	
Less: initial investment	1,000	
Net appreciation	$2,029	
Less: 11% tax on capital gain	223	
Net Appreciation After Tax		1,806
Total Gain After Tax		$2,674
Percent Return on Initial $1,000 Investment		267%

Note: The total return for a tax-exempt investor would be 306%; for an investor in the 50% bracket, 213%. The reader is referred to Part One of this article for a discussion of the selection of tax brackets to be used in measuring results.

Time Periods

The next problem to be handled in measuring investment company performance is that of time periods. A discussion of this problem area in *Part One* noted that the most commonly used technique—base year-to-end year—suffers from what might be called the "blinder effect;" i.e., it shows performance during only one slice of time, and the shorter the period, the more important the base and terminal years become. The results of measuring performance between only two points of time can be quite misleading to the investor since the results can change significantly as the two points are moved.

The method chosen by the authors for overcoming the important shortcomings of the base year-to-end year technique is that of moving periods. In essence, performance is measured over a series of periods such as the 10-year periods January 1, 1940 through December 31, 1949, 1941-1950, 1942-1951, through 1951-1960. A fund's overall past performance is then represented by a series of results calculated on a continuing basis over moving periods of time.

Using 10-year periods beginning in 1940 and continuing through 1960, for instance, provides a total of 12 separate performance results which may then be plotted graphically for a number of funds to show their

relative standing, trend and consistency of performance. Since the results thus presented are not dependent upon the selection of a given base year, significant fluctuations in the relative performances of funds from year to year do not distort longer term performance results.

Although the authors have elected to use 10-year moving periods, there is nothing sacred about this choice; and the investor or Financial Analyst may have valid reasons for selecting a shorter or longer period. Probably the major advantage of using a 10-year period is that it would normally reflect the results achieved in a variety of general business and economic conditions. The same advantage, of course, is inherent in a period exceeding 10 years. However, use of a period of 15 or more years would eliminate consideration of a large number of funds whose origin was fairly recent. Conversely, the shorter the moving period used, the greater the number of newer funds that may be included. Nevertheless, a period of five years or under is probably shorter than the average period over which a typical investor would hold his fund shares.[1] Such a period also tends to be too short to present a fair picture of what management can consistently accomplish for the investor. Also, results shown in this manner tend to fluctuate too much to present a useful picture.

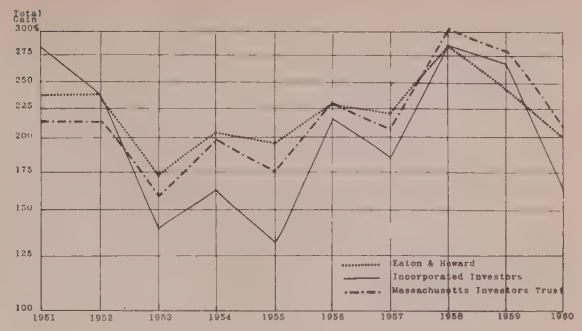
Before presenting the actual results of applying the above method to several leading mutual funds and closed-end investment companies, a word of caution might be added. Financial Analysts, of course, are well aware that past performance by itself is not always a reliable indicator of what the future holds. However, the evaluation of an investment company's future prospects requires an analysis of *every* security held in that company's portfolio. When several investment companies are being considered, the magnitude of this task would no doubt preclude ever reaching a decision. Furthermore, the portfolio of a managed investment company undergoes almost continual change. Therefore, the past performance of investment companies is, in most cases, the best practical guide to use in anticipating future performance.

MUTUAL FUND PERFORMANCE

There are currently well in excess of 200 investment companies in this country, with total assets of approximately $18 billion. For illustrative purposes, the authors have chosen and calculated results for a sample of 11 of the oldest and largest diversified common stock mutual funds.[2] These funds represent the largest funds of their type with histories dating back 25 years or more. Since these funds as a group have in the neighborhood of 750,000 shareholders, there is a good deal of validity in assuming that they represent the most "popular" funds among investors.

The results presented here represent the *total gain* that would have been achieved on an investment of $1,000 (and no reinvestment of dividends) for a tax-exempt investor over 10-year moving periods commencing in 1942 and running through 1960, or a total of 10 such periods. A tax exempt position was assumed because our primary purpose at this point is to measure the relative performances of various funds and, as noted in *Part One,* tax adjustments *per se* generally do not affect the *relative* ranking position of a fund over a long period of time. Since tax adjustments are excluded from the gain figures shown below, the absolute amount of these figures should not be interpreted as representative for the typical investor who must pay taxes.

Chart I—Performance Results for Selected Mutual Funds



Ten Year Periods Ending December 31

Since space limitations prevent showing a chart here of sufficient size to clearly plot the results of all 11 funds under consideration, *Chart I* summarizes the results only for what the authors feel were the three leading performers: Eaton & Howard Stock Fund, Incorporated Investors and Massachusetts Investors Trust. This does not mean that other Analysts evaluating the same data would necessarily arrive at the same conclusions. Even in the authors' minds, for instance, it was both a difficult and subjective choice that resulted in the exclusion of Fundamental Investors from the list of top performers. However, consistency of performances and the subjective weighting of performances in the most recent periods led the authors to select as "best" the three funds enumerated above.

When these three funds are compared with *one another,* we find that Incorporated Investors has been the top performer in two of the 10 periods. Eaton & Howard and M.I.T. each achieved the top position in four of the 10 periods. It will be noted, however, that M.I.T.'s top performance has been registered in the most recent periods. This fact could be of significance to the investors and Analysts who choose to give more weight to the results achieved in recent periods. (A number of statistical devices are available which would accomplish the objective of weighting the recent periods more heavily.)

Although we have not presented performance results for the other eight funds, some indication of the wide differential of results registered by the best and poorest performers may be obtained in the following manner (we shall refer to the poorest performer in this group of funds as Fund "X"). A $1,000 investment made in Eaton & Howard shares at the beginning of 1942 and sold at the end of 1960 would have netted the tax-

1. For footnotes see Appendix.

exempt investor a total profit in capital appreciation and dividends of $6,617. The same investment in shares of Incorporated Investors and M.I.T. would have resulted in profits of $6,497 and $6,202, respectively. In contrast, the total gain registered by Fund "X" amounted to $4,207.

At this point it should probably be emphasized that the 11 funds considered by the authors did not include any growth stock funds, specialized industry funds, or newer and smaller funds. It is likely that some of the funds in these categories—although perhaps involving a greater degree of risk for the investor—would have performed exceptionally well in terms of total gain during the period under consideration.

CLOSED-END PERFORMANCE

Performance results for a total of 10 closed-end investment companies were calculated by the authors. Essentially, the criteria used for selecting them were the same as those used in selecting the mutual funds; i.e., the companies whose performances were measured include the largest and oldest *fully* diversified closed-end investment companies.[8] The combined assets of these companies probably total close to 75% of all closed-end investment company assets. These 10 companies include seven which were leveraged for all or part of the 1942-1960 period, and three which were unleveraged for the entire period.

As discussed previously, the method employed by the authors for measuring closed-end investment company performance is identical to that used for mutual funds, except that market prices are used in lieu of asset values, and brokerage commissions take the place of "load" and redemption charges.

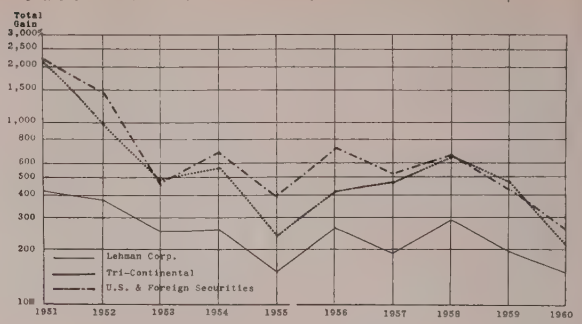
Chart II shows the results for three of these closed-end companies: U. S. & Foreign Securities, Tri-Continental and Lehman Corporation. Although Lehman Corporation was not among the top three performers, it has been included to illustrate the results achieved by a company which was unleveraged for the entire period under consideration. U. S. & Foreign Securities, and Tri-Continental were unquestionably the best performers in this group of 10 companies. Of the two, U. S. & Foreign Securities far surpassed Tri-Continental by being the top performer in eight of the past 10 periods, including six of the last seven periods.

It should also be noted that a comparison between *Chart I* and *Chart II* shows that both U. S. & Foreign Securities and Tri-Continental have consistently and significantly outperformed the largest and best known mutual funds. While these leading closed-end companies may have demonstrated a greater degree of volatility, in *every single* period they have registered performance superior to that of the top mutual fund included in the sample.

An External Yardstick

Up to this point we have presented a method for measuring the performance of investment companies

Chart II—Performance Results for Selected Closed-End Companies



Ten Year Periods Ending December 31

and have illustrated this method by applying it to several of the oldest and best known mutual and closed-end funds. As yet, however, we have not attempted to answer the question: Do the performances of investment companies justify their charges?

In order to answer this question, the authors feel it is necessary to develop a yardstick against which the performance of investment companies can be measured. Such a yardstick, of course, would have to provide the advantage of diversification provided by investment companies. However, the other big advantage of investment companies—professional management—is a variable that need not exist in the yardstick. If, for instance, a fund consisted only of the stocks included in the Dow-Jones Industrial Average, diversification would exist without the benefit of professional management decisions. If such a fund could consistently outperform investment companies, the justification for the management fees charged by investment companies would be open to question.

For reasons discussed in *Part One,* the authors contend that it is indeed valid to develop a yardstick such as a Dow-Jones Industrial Average fund for comparison with investment companies. There is no practical reason why an investment company could not buy shares of all the stocks included in an index such as the Dow-Jones Industrial Average in exact proportion to the weight they carry, thereby making it possible for the investor to buy a proportionate share of the index.

In order to develop this external yardstick, then, we have chosen to treat the Dow-Jones Industrial Average as a hybrid form of fixed trust-mutual fund. The Dow-Jones Industrial Average was selected primarily for the reason that it is probably the one market index which is most frequently referred to and is most familiar to the majority of investors. So that this Fixed Trust may not be said to have an "unfair" advantage over other mutual funds and investment companies, the following adjustments have been made to the Dow-Jones Industrial Average:

1. An original assumed investment of $1,000 has been reduced by the 7½% "load" charge which is typical of mutual funds.

2. An additional reduction has been made for the

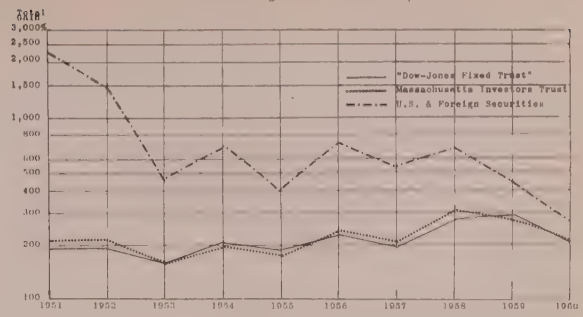
brokerage commissions incurred in purchasing stocks for the fund.

3. Dividend distributions have been reduced by an amount representing a quarterly management fee of ⅛ of 1% of average net asset value; i.e., ½ of 1% annually of the quarterly average of the Dow-Jones Industrial Average. Actually, since a Dow-Jones Fixed Trust would require no investment decisions and, thus, no research department, a management fee of this magnitude could hardly be considered anything but excessive. (The authors have noted with interest that the management fees incurred by several mutual funds have recently been subject to a good deal of criticism.)

4. Since brokerage commissions would be incurred by the fixed trust when it sells securities to meet redemptions, the gross proceeds to be received by the investor at the time he redeems his shares (at the end of each 10-year moving period) have been reduced by the brokerage commissions involved.

How would such a Dow-Jones Fixed Trust perform against the oldest and largest mutual funds and closed-end investment companies? *Chart III* provides the answer to this question. If, because of its superior performance in the most recent periods, M.I.T. is selected as the outstanding diversified common stock fund, we

Chart III—Comparison of "Dow-Jones Fixed Trust" With Leading Investment Companies



Ten Year Periods Ending December 31

can see that it has performed admirably in comparison with the Dow-Jones Fixed Trust. M.I.T. would have outperformed the Trust in six of the last 10 periods. In most of these six periods, however, M.I.T.'s margin of superiority has been rather slim. It should also be noted that M.I.T.'s performance was one of the best of the 11 mutual funds originally considered. This, in turn, means that the majority of these 11 oldest and most popular diversified common stock mutual funds failed to surpass the performance that would have been achieved by a Dow-Jones Fixed Trust.

Chart III also shows that U. S. & Foreign Securities, the top performer among the 10 closed-end investment companies previously considered, *substantially* and *consistently* outperformed both M.I.T. and the Dow-Jones Fixed Trust. The extent of U. S. & Foreign Securities' superior performance is emphasized in the following figures which summarize the total gains for each in the 1942-1960 period: U. S. & Foreign Securities, 5,518%; M.I.T., 620%; and Dow-Jones Fixed Trust, 627%.

SUMMARY AND CONCLUSIONS

In *Part One* and *Part Two* of this article we have attempted to point out the shortcomings of methods presently used to measure investment company performance and, also, to develop a refined approach designed to effectively measure results from the investor's point of view. While the authors are in an excellent position to realize that their proposed method involves extensive calculations which would consume an excessive amount of time for the individual investor or Analyst, they believe that a service could profitably employ such a method.

Application of this refined method to a number of the oldest and largest mutual funds and closed-end investment companies leads to several conclusions. First, *good* mutual funds tend to outperform a Dow-Jones Fixed Trust, but by a rather slim margin. Poorer performers would have done better by investing solely in the Dow-Jones Industrial Average. Therefore, if performance is to be the sole criterion, it appears that many of the most popular funds have not justified the expenses of professional management. (The authors are aware that several of the smaller and newer mutual

funds have probably done an excellent job of outperforming the Dow-Jones).

On the other hand, the better closed-end investment companies have significantly and consistently outperformed both the better known mutuals and the hypothetical Dow-Jones Fixed Trust. This is partly attributable to the fact that closed-end assets typically sell at a discount. Also, management does not need to worry about redemptions if it makes a decision which works out badly; therefore, it has a greater degree of freedom of choice in making decisions beneficial to shareholders.

Although the market prices of closed-end shares tend to be more volatile than mutual fund shares because of changes in discounts and premiums from asset values, and, in some cases the presence of leverage, the superior rewards in terms of total gain provided by leading closed-end companies suggest that potential mutual fund investors should first carefully consider the relative advantages and disadvantages of closed-end shares.

Finally, it should be re-emphasized that past performance is not necessarily an accurate measure of future prospects. Indeed, there may be evidence to suggest that the performance gap between the better closed-end companies and mutual funds is narrowing. Nonetheless, consideration of past results would tend to make the authors lean toward an investment in a closed-end investment company.

APPENDIX

1. The authors are not aware of any reliable statistics relating to the average period of time a typical investor tends to hold his fund shares. The fact that mutual funds have registered the greatest part of their growth only in the last 15 years would probably impair the reliability of such statistics. Nonetheless, available evidence suggests that mutual fund purchases are generally intended to meet long term objectives. Data published by the National Assoociation of Investment Companies (The Mutual Fund Shareholder, 1958) indicated that approximately 53% of the shareholders surveyed gave "future retirement income" or "protection against inflation" as their reasons for purchasing mutual fund shares.

2. The 11 funds included in the authors' sample of diversified common stock funds were: Affiliated Fund; Broad Street Investing Corp.; Dividend Shares; Eaton & Howard Stock Fund; Fidelity Fund; Fundamental Investors; Incorporated Investors; Investment Company of America; Massachusetts Investors Trust; Scudder, Stevens & Clark Common Stock Fund; and Selected American Shares. Although Scudder, Stevens & Clark Common Stock Fund is considerably smaller than the other funds in the sample, it was included so that the sample would have one fund which has no "load" charge.

3. The 10 closed-end investment companies included in the authors' sample were: Adams Express; American International Corp.; Consolidated Investment Trust; General American Investors; General Public Service Corp.; Lehman Corporation; National Shares Corporation (now The Dominick Fund); Niagara Share Corporation; Tri-Continental Corporation; and United States & Foreign Securities Corporation.

Beneficial Reports for 1960

BENEFICIAL FINANCE SYSTEM

- Record amount loaned to families
- Earnings up for 16th consecutive year
- Stock acquired in Western Auto Supply Company

Nineteen-sixty was another record year for Beneficial and its subsidiaries. Earnings were at a new high of $24,662,633, the 16th consecutive annual increase since the end of World War II.

Service to families from the standpoint of amount of loans made and outstanding loan balances at the year-end was at a new peak. The number of offices was increased by 77 including one in Melbourne, Australia, thus adding another country to the Beneficial Finance System — the world's largest.

Approximately 47% of the common stock of Western Auto Supply Company was acquired during the year. Western Auto is a general merchandising organization with sales exceeding $250,000,000 annually.

HIGHLIGHTS	1960	1959
Net Income	$ 24,662,633	$ 23,445,385
Net Income per Common Share	$2.33	$2.21*
Cash Dividends per Common Share	$1.00	$1.00
Total Assets	$661,263,575	$565,596,495
**Amount of Loans Made	$786,894,747	$773,877,411
Number of Offices	1,287	1,210
Instalment Notes Receivable (after deducting Unearned Discount)	$589,907,209	$554,371,946

*Adjusted to give effect to 2½% stock dividend paid January 30, 1960.

**Principal only (unearned discount has been excluded).

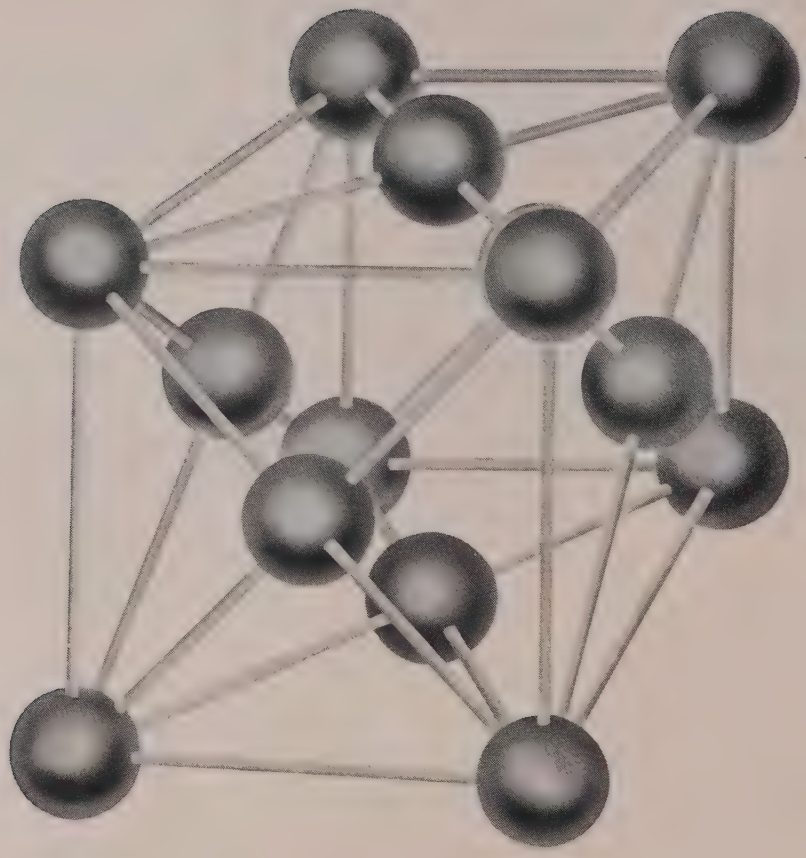
The information contained herein should be read in conjunction with the financial statements and notes appearing in the 1960 Annual Report to Stockholders. A COPY OF THE REPORT WILL BE FURNISHED UPON REQUEST.

. . . a BENEFICIAL loan is for a beneficial purpose.

Beneficial Finance Co.

Beneficial Building, Wilmington, Delaware

1,287 OFFICES IN THE UNITED STATES, CANADA, ENGLAND AND AUSTRALIA



New frontiers for Copper

This is a representation of the molecular structure of a copper crystal—copper atoms arranged in a "face-centered cubic lattice."

From this neat atomic geometry and the nature of the copper atom itself stems copper's unique usefulness. These are the fundamental reasons why copper and its alloys combine to best advantage a range of physical properties—such as high thermal and electrical conductivity—not found in any other group of commercial metals.

It is an appropriate symbol for the new frontiers of progress at Anaconda—accelerating efforts to put copper to work in solving an ever greater variety of problems in industry . . . to discover new uses . . . to create new products.

Anaconda's fabricating companies—Anaconda American Brass Company and Anaconda Wire & Cable Company—are rapidly expanding programs of research, development, and application services. In addition, The Anaconda Company is participating with other producers in the Copper Products Development Association, which is working on a variety of long- and short-range research projects. One, for example, is nontarnishing copper and brass. Others involve modification of the copper atom itself to create radically new properties.

Anaconda, through its development of new mines and the modernization of existing facilities, is contributing assurance to the free world of an adequate supply of copper to meet any normal requirement. The Anaconda Company, 25 Broadway, New York 4, New York.

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ANACONDA®

HIGH FINANCE IN SOYBEANS

by Norman A. Turkish

LAST DECEMBER, THE SOYBEAN FUTURES MARKET caught fire. The government left the soybean business, the public went in, and prices skyrocketed. The taxpayer has saved money, the speculator has profited, and farmers' incomes have jumped. But no Utopia has yet befallen the country.

Prices have merely responded sharply to the economics of supply and demand. A soybean supply so closely in balance with estimated demand will leave a negligible amount of the commodity in the government's hands. Meanwhile, the public was alerted to the situation and aggressively bid-up the prices of the available bean supply. Farmers, though guaranteed a price in advance by Uncle Sam, can now sell all their beans in commercial channels and reap at least an 80¢ premium per bushel over the government paying price.

Soybeans are still "red hot." In an average day, more soybeans are traded in the pits of the Chicago Board of Trade than all grain futures combined. This fact is remarkable because soybean output is less than 10% of production of all wheat, corn, oats and rye. Last year on the nation's 15 commodity exchanges, 3,878,151 contracts accounting for about $29 billion of commodities were traded. Soybeans comprised about 30% of this volume. And this year interest in soybeans is greater. In a busy day, over 100,000,000 bushels, or almost 20% of the crop, exchange hands. At current prices, these are worth $290,000,000, a total which surpasses the value of shares traded on an active day on the New York Stock Exchange and dealings in municipal bonds combined.

Soybeans are back among the coveted ranks of volatile commodities. Steep peaks and troughs characterized soybean price movements in past years with price ranges exceeding 100¢ per bushel in a given season. Beginning with the crop year 1956, however, these yearly fluctuations melted into a 30¢ trading area. Soybeans lost their speculative standing in recent seasons because supplies were large enough to curb demand for futures.

For example, in just one week last January, the May futures contract advanced 17¢, a rise which almost equalled the full year's trading range in two crop years, 1958 and 1959. To be sure, this year's volatility has prompted action by the trade. To meet the heavy onrush of orders, Board of Trade officials moved soybean trading from their small pit into the larger wheat pits. Secondly, margin requirements were hiked so that at $1,000 they are more than double the $400 needed early this year to purchase a contract of 5,000 bushels. And recently, members of the Exchange voted a 33 1/3% increase in commission rates. Undaunted, soybeans continue to draw avid interest from seasoned speculators, sophisticated traders and lay investors who believe that a small supply and a good demand will bring sharply higher prices and continued wide swings.

Background of the Present Market

Enthusiasm for this year's soybean crop began late last Spring. Unfavorable weather at planting time suggested a late crop. Since yields on late crops tend to be lower than normal and the bean can be, of course, subject to killing frosts, the initial USDA estimate of crop size was construed as bullish. Released in August, it predicted 548 million bushels would be harvested. The first wave of buying came on these projections for a yield below that of the previous year. In September, the next USDA crop report wiped away expectations that the crop was hurt by weather. Statisticians and agents concurred that the expanded acreage would produce 566 million bushels. Prices weakened somewhat but drew some support from the government's announcement that its carryover had been reduced by more than traders had expected. Thus, the first phase of soybean trading, the period of March through September, was one of gradual price improvement with gains later pared by reports of a larger new crop.

The second phase of this year's soybean situation began with the anticipated supply totalling 596 million bushels. The October 1960 crop estimate clipped four million bushels from this supply, and the government reported a further reduction in the carryover. Total supply now was expected to be 585 million bushels. Demand was projected at 570 million bushels. Hedge pressure during harvest kept prices on the defensive. The November election results caused an initial flurry of buying, but futures prices continued to slide. Some of the selling was attributed to uncertainty over foreign demand, now that drastic steps might be taken to curb the gold drain. Moreover, exceptionally mild weather kept pastures green and demand for soybean meal was sluggish. Phase two ended with the final crop summary

Norman A. Turkish, has been associated with Hemphill, Noyes & Co. since 1956. He studied agricultural economics at Cornell University and has a MBA in Finance from its Graduate Business School. He also holds a MA in Economics from the University of Vermont. He is on the Board of Directors of Student Agencies, Inc. and is a member of the Commodity Club of New York.

estimating production of 559 million bushels and a total supply of 582 million bushels.

The stage was set for the dynamic third phase to begin. No longer could the government change supply estimates. Exports were running 10% ahead of its pace of last year. A Democratic Administration was looked upon as favorable to crop prices. Soybean oil prices were rising because of lower supply from competing products and good foreign demand. Soybean meal attracted buyers as the weather became colder. Moreover, poultry and hog prices were high and farmers could afford the "luxury" feed. Demand was placed at 575 million bushels which would leave a scant seven million bushels carryover next October 1st. The crisis in Laos intensified traders' desires to buy beans. And when Red China — the world's second largest soybean producer and exporter — claimed it suffered severe agricultural setbacks, the soybean market literally exploded on the up side. The third phase is still on. It will end when prices go to levels which discourage export inquiries and sales of soybean by-products.

HISTORY OF THE SOYBEAN

Interest in soybeans began many years before soybean trading began on the Chicago Board of Trade in 1936. A clamoring for the annual leguminous plant was first noted in China almost five thousand years ago. Supposedly a group of stranded travelers ate the raw beans while waiting for a caravan to rescue them. From that time soybeans were considered "the staff of life" in China. They were one of the "Wu Ku" or five sacred grains including rice, wheat, barley and millet. In fact, ancient Chinese literature relates that the soybean was extensively cultivated and regarded as a nourishing food. The Chinese did not have agricultural experiment stations, of course, but writings as far back as 2207 B.C. discuss the bean's physical make-up, its soil preferences, and methods of planting, cultivation, harvest, storage and various uses of the many varieties. Other historians tell us that the Chinese recognized soybeans as having many medicinal virtues. For example, about 450 A.D. the soybean was fed to people to relieve constipation; to stimulate lungs; to cure skin blemishes; and to stimulate the growth and appearance of the hair. For the most part, the Chinese devoured the beans raw. No record of crushings has been found. The main by-products of soybeans in old China were soybean curd, soybean sauce, and soybean milk. Perhaps unknowingly, through the consumption of beans the Chinese satisfied their hunger pains which had grown from a protein deficiency.

Although the soybean was immensely popular in the Orient, it took a clash between East and West to drive home the soybean's usefulness and versatility. Until 1900, products made from other oleaginous seeds were of better quality than soybean oil and meal, and little success was attained in producing soybean varieties that would grow well on the Continent. The soybean gained fame in Europe after the Russo-Japanese War which took place at the beginning of this century. While covering the fighting, Western observers noted the Japanese success at fertilizing farms with oil cake imported from China. Their reports met with favorable response from European scientists, agriculturists, and universities which had previously undertaken studies on the raw bean. This time, though, soybeans were a commercial success because they were used in the finished product rather than in the raw stage. Improved technology gradually improved the soybean's standing among other oil seeds; but European production is still very small due to the comparative climatic advantage of other feed grains.

Likewise, soybeans did not gain initial popularity in the U. S. They were discussed here as early as 1804 and were brought back from Japan by Admiral Perry in 1854. Agricultural experiment stations conducted tests, but probably did not reach any conclusions of commercial importance for soybeans. Moreover, soybeans were considered a luxury food and farm output was geared to the vital crops, such as corn, wheat and oats. The few soybeans grown were centered in the Southeastern states. They were grown commercially during that period (1910-1930) primarily for a forage, pasture and cover crop. The increased demand for edible oils stimulated research on improved methods for crushing and refining soybeans. The logical step was an expanded bean acreage for crushings. And when the value of the high protein meal was recognized, bean demand was further activated and soybean acreage soared.

Soybean Supply

Currently the United States produces about 60% of all soybeans grown in the world. The second largest producer, and the only other significant source of supply, is China. Thus, soybean supply in total could change drastically should bad weather strike in any of these two areas. Supply has been increasing yearly, however, with only minor interruptions. This is due partly to the nature of the soybean plant. It is easy to grow and is often looked upon as a poor man's clover, since it can succeed on low-fertility soils. Marginal farmers, as well as efficient producers, consider soybeans an excellent cash crop.

Domestically, soybean acreage and production has expanded greatly. Production has increased more than acreage because of the improved yields. In the early 1940's, for example, the average yield was about 18½ bushels per acre. Today farmers reap an average of 24 bushels an acre. The production trend since 1940 shows a tremendous growth pattern. In that year, 78 million bushels were harvested compared with this season's figure of 559 million bushels. Moreover, production declined in only four years of the 20-year period. Soybean production doubled in the five years ending with 1958 and set a new record every year. But production failed to set a new record in either 1959 or 1960. The 1960 crop was 3% smaller than the record crop of 1958.

Over the years, U. S. soybean production became

NATIONAL UNION INSURANCE COMPANIES

Pittsburgh, Pennsylvania

STATEMENTS OF CONDITION • DECEMBER 31, 1960

ASSETS

	National Union Fire Insurance Company of Pittsburgh, Pa.	Birmingham Fire Insurance Company of Pennsylvania	National Union Indemnity Company
Cash	$ 3,527,415	$ 736,654	$ 920,328
U. S. Government Bonds	8,611,375	1,041,770	1,572,563
Other Bonds	33,856,781	4,300,527	2,925,615
Common Stocks	20,716,434	5,356,738	4,896,632
Stocks of Subsidiaries	9,900,278	—	—
Real Estate	825,359	—	—
Premiums in Course of Collection not over 90 days old	7,142,425	839,260	—
Reinsurance Recoverable on Paid Losses	1,501,672	—	—
Accrued Interest	361,888	52,053	47,088
Other Admitted Assets	4,232,599	15,031	—
	$90,676,226	$12,342,033	$10,362,226

LIABILITIES, CAPITAL AND SURPLUS

Unearned Premiums	$30,258,874	$ 3,782,359	$ 3,782,359
Reserve for Losses and Loss Expense	13,183,280	1,647,910	1,647,910
Reserve for Taxes and Expense	1,358,418	168,552	168,552
Funds Held Under Reinsurance Treaties	6,039,377	935,386	—
Reserve for Other Liabilities	2,935,145	495,401	166,312
	$53,775,094	$ 7,029,608	$ 5,765,133
Capital	$ 4,000,000	$ 1,000,000	$ 1,000,000
Surplus	32,901,132	4,312,425	3,597,093
Surplus to Policyholders	$36,901,132	$ 5,312,425	$ 4,597,093
	$90,676,226	$12,342,033	$10,362,226
Securities deposited as required by law, included in assets above	$ 1,424,432	$ 747,615	$ 971,434

DIRECTORS • NATIONAL UNION FIRE INSURANCE COMPANY OF PITTSBURGH, PA.

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Pittsburgh, Pa.

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Pittsburgh National Bank

ALBERT B. CRAIG
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Home Office: 139 University Place, Pittsburgh 13, Pa.

World's most advanced data communications system designed for the Air Force by Western Union

Comlognet—the Air Force Combat Logistics Network—to be used to control the flow of men and materials between more than 240 Air Force installations.

This instantaneous communications and data network has the capability of handling every known form of electronic communications swiftly, accurately, and automatically. Upon completion in 1962, Comlognet will have a daily capacity of seven million punched cards in its five U. S. centers, making it the world's largest data processing system. Future expansion, including the handling of data from overseas installations, will be readily accommodated.

Modernization of Comlognet is another first for the U. S. Air Force and Western Union. Acting as prime contractor, Western Union designed and engineered this electronic network in participation with other companies.

These Air Force centers will become a part of the Defense Communications System (DCS).

Other Systems completed or being engineered by Western Union for National Security

Air Force Automatic Teleprinter System. New Western Union switching centers and terminal equipment are part of the 5½ million-mile network, linking over 350 Air Force installations around the world. Minimum daily capacity: 130 million words.

National Weather Facsimile Network. Now providing data to 600 stations in 330 cities, serving: U. S. Weather Bureau, Air Force, Army, Navy, Coast Guard, commercial airlines, other nonmilitary subscribers.

Coast-to-Coast Microwave Network. Designed for both military and civilian use. Will handle every known form of electronic communication. Now under construction.

Air Force Nuclear Bomb Alarm System. Installed last year for the Eastern United States. National Operation: early in 1961.

Weather Observing and Forecasting Test Network. Western Union, participating with other companies, is designing and engineering this initial test network. Aim: test-collecting weather information automatically for computer processing. Initiation date for first tests: mid '61.

Western Union . . . finds better ways to speed it electronically

Table I

A Comparison of the Ten Leading Soybean-Producing States
1960, 1950, 1920

State	(1960) Thousands of Bushels	(1960) Percentage of U. S. Production	(1950) Thousands of Bushels	(1950) Percentage of U. S. Production	(1920)[1] Thousands of Bushels	(1920)[1] Percentage of U. S. Production
Illinois	129,298	23.1	94,752	33.0	92	3.1
Indiana	65,826	11.8	35,002	12.2	42	1.4
Iowa	64,464	11.5	42,262	14.7	*	
Arkansas	53,595	9.6	11,676	4.1	*	
Missouri	50,396	9.0	27,393	9.5	133	4.4
Minnesota	41,800	7.5	16,384	5.7	*	
Ohio	38,375	6.8	23,232	8.1	64	2.1
Mississippi	20,424	3.7	6,768	2.3	*	
North Carolina	13,278	2.4	5,117	1.8	1,638	54.6
Kansas	12,892	2.3	6,462	2.3	*	
Total	490,348	87.8	269,048	93.7	1,969	65.6

* Not among the top ten States.

1. The other five leading States in 1920 and their percentages were: Virginia 19.0, Alabama 7.6, Kentucky 4.0, Tennessee 1.7, and Wisconsin 0.9.

Sources: Agricultural Marketing Service, USDA.
Goldberg, Ray A., The Soybean Industry, p. 16.

Table II

Important Soybean Statistics in the United States
Selected Years, 1924 - 1960

Crop Year	Beginning Carryover (millions of bushels)	Production (millions of bushels)	Available Supply* (millions of bushels)	Domestic Crushings (millions of bushels)	Exports (millions of bushels)	Seed and Feed (millions of bushels)
1924	neg.	4.9	5.0	.3	N.A.	3.1
1930	.1	13.9	14.1	4.1	N.A.	7.4
1936	.4	33.7	34.1	20.6	neg.	12.2
1941	.7	107.2	107.9	77.1	.5	24.2
1947	5.4	186.5	191.8	161.4	3.0	18.5
1950	2.9	299.2	302.2	252.0	27.8	20.7
1954	1.3	341.1	342.4	249.0	60.6	24.9
1958	21.0	579.7	600.7	401.2	110.1	29.3
1959	62.4	537.9	600.2	392.4	142.0	36.0

* Including imports.
N.A. Not available.
neg. Negligible.

Sources: Soybean Blue Book, American Soybean Association.
Agricultural Marketing Service, USDA.

concentrated in the corn belt. Soybeans are now the chief alternative crop to corn on many farms. This change in location is significant. The leading states in the 1920's (see *Table I*) were in the Southeastern part of the country. Today the bean's home is centered near Decatur, Illinois. Processing plants are closer to the areas of consumption. But even more important, the industry has shifted to the area of optimum growing conditions, and yields have expanded greatly. Production trends may be viewed in *Table II*.

For the futures trader, the location of soybean bushels is an important consideration. For instance, heavy supplies in Chicago warehouses could have a temporary depressing effect on price even though total supplies might not be burdensome. The significance of the old crop carryover depends upon who owns it. If its size is large and much of it is in the hands of the Commodity Credit Corporation (CCC), price advances will be small and short lived. Examples are found in the crop years 1959 and 1960. In 1959, the carryover was moderate and the government held most of it. Repeated sales to processors, at prices close to market prices, had the effect of putting a ceiling on price levels. But in the current crop year, the opposite was true, namely a relatively small carryover and few beans in government coffers. Once these beans were sold, prices rose substantially.

The distribution of the new crop is equally important as a price factor. The farmer has two main ways to dispose of his crop. He can sell soybeans immediately, or he can store them in hopes of a seasonal rise in soybean prices. If a large part of the crop is marketed in the harvest period (September-November), the chances are good for a modest price advance later. In the Fall months, processors can acquire most of their beans at low prices and can sell the by-products cheaply, stimu-

Table III

Major Grains: Supplies, Disappearance and Importance of Carryovers, Crop Year 1960-1961

Grain	1960 Beginning Carryover (millions of bushels)	Estimated Production* (millions of bushels)	Estimated Demand** (millions of bushels)	1961 Ending Carryover (millions of bushels)	Percent Beginning Carryover is of Production	Percent Ending Carryover is of Production
Wheat	1,313	1,375	1,184	1,504	96	109
Corn	1,799	4,260	4,059	2,000	42	47
Oats	269	1,183	1,177	275	23	23
Rye	10	35	31	14	29	40
Grain Sorghums	581	603	544	640	96	106
Soybeans	23	559	575	7	4	1

* Production plus imports.
** Estimated by the U. S. Department of Agriculture. Includes domestic and foreign consumption.

Source: Agricultural Marketing Service.
U. S. Department of Agriculture.

Table IV

Alternative Choices Facing a Farmer: Various Crops That Could Be Planted in the Same Land, Typical Ohio Farm,* 1960

Crop	Yield Per Acre**	Estimated Average Farm Price	Income Per Acre	Costs Per Acre	Return Per Acre
Wheat	35	$1.85	$64.75	$44.50	$20.25
Corn	68	1.00	68.00	55.30	12.70
Soybeans	25	2.05	51.25	42.00	9.25

* Size of farm assumed at 480 acres.
** Bushels per acre.

Source: Agricultural Marketing Service, USDA.
Ohio Agricultural Experiment Station.

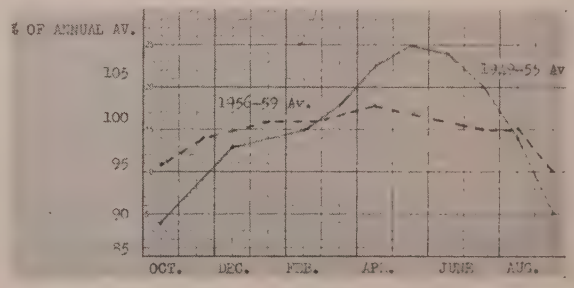
lating demand. Later in the season they can afford to pay higher prices for the remaining beans which are only a small fraction of their total purchases. In recent years, however, the USDA reports that farmers are selling fewer beans at harvest and are either storing or placing beans under government loan. Accordingly, seasonal advances for soybean prices have been less extreme (*Chart I*).

Although the government loan program is less important as a price factor for soybeans than it is for other grains, it does influence farmer's planting intentions. Since soybean stocks are but a negligible fraction of production (*Table III*), prices on the free market are almost always considerably above the effective loan level. A function of the loan program is to guarantee producers in advance a minimum price (they can expect) for their product. If market prices are above announced government support prices, farmers would not surrender their crop to the CCC. They would sell it on the open market. So far (through Dec. 31, 1960), farmers placed almost 22 million bushels of beans, or less than 4% of the crop under loan, but undoubtedly will redeem most of these before the May 31st deadline. Meanwhile, any beans not available for sale can lend further confidence to the market. The government loan program, as it affects soybeans, assists farmers to decide which crop to plant. The relationship between support prices of the major grains is the key feature influencing the farmer's choice. In the 1950's, farmers found corn prices more attractive than soybean prices. This was a chief reason limiting the production of soybeans and swelling the volume of corn. *Table IV* indicates the greater profitability of growing corn last season assuming the average price of soybeans this year is near government estimates.

U. S. soybean supply is a major proportion of world supply. Nevertheless, production in other countries influences our price even though we process and consume all soybeans from domestic production. Once again, the principal reason for this fact is that no significant surplus exists anywhere in the world. If world production changes substantially in any one year, the world price of soybeans will change markedly. World production,

Chart I

Seasonal Variation in Soybean Prices



Source: Agricultural Marketing Service, USDA.

of course, includes the output of the U. S. and China which together accounts for over 90% of the total. China's production since the pre-war period has stagnated; in fact, its current production is a shade lower. Production in Indonesia and Japan doubled since the late 1940's, but still is relatively unimportant in the world supply picture. Canada, Brazil and Korea have soybean crops, but their output is even less of a consideration. Aside from the U. S. and China, all other soybean producing nations are net importers of beans. For example, Japan produced about 16 million bushels last year, but imported over 40 million bushels from the U. S. Should soybean production change radically in these countries, there could be some effect, probably minor, on soybean prices.

DETERMINING A PRICE LEVEL

Basically, soybean prices reflect the demand for soybean meal and soybean oil. In the 1920's, however, soybean crushings were a small percentage of total disappearance. Much of the crop was used directly as food for animals or for a cover crop. But with the advent of oil utilization, soybeans became recognized as a prime source of edible oil and were raised primarily for processing. Today, well over 90% of the crop which is consumed domestically passes through crushing plants. Although substantial amounts of oil, and fair amounts of meal are exported, foreign countries, in recent years, have increased their purchases of raw beans. European and Japanese businessmen have found it more profitable to build crushing plants in their native lands rather than buy finished products here. But even in foreign lands, the demand for soybeans is based upon prices which would encourage consumption of oil and meal.

There are many factors which influence the price of soybeans. Some, such as the number of animal units and the consumption of margarine, affect directly the demand for meal and oil. Other factors, e.g., consumer income and the general price level, have a less direct effect on price. And some factors such as the harvest period play a major role at some particular time and then are of no importance. The principal factors influencing soybean prices are listed in *Table V*. An appraisal of the soybean market should consider each item. It should not be thought, for example, that a close balance between supply and demand is the only harbinger of higher prices. Situations existed in the 1950's where ending carryovers were below 10 million bushels and no price advance of consequence took place. In the final analysis, the over-riding determinant of soybean prices is the demand for the soybean by-products.

Soybean Demand

Soybeans are a valuable source of edible oil. They are also crushed for their high protein nutrients. A 60 pound bushel of soybeans will yield an average of 11 pounds of oil and 47 pounds of meal. The soybean processor considers the value of both by-products when purchasing beans. To protect himself against a mis-

Table V

Factors Influencing the Farm Price of Soybeans

- **I Supply of Beans**
  - Old crop carryover
    - free supply
    - Government stocks
  - New crop
    - commercial sales
    - farm storages
    - Government loan program
    - stocks at terminal markets
  - World crop
    - exportable supplies
    - country of origin
  - Imports
- **II Demand for Beans**
  - Soybean meal consumption
    - number of animal units
    - number of poultry on farms
    - feeding rates
    - livestock and poultry prices
    - exports
    - industrial products
  - Soybean oil consumption
    - exports
    - shortening, margarine, salad dressing
    - paints, varnishes
    - glycerine, soft soaps
  - Soy flour use
    - dietetic foods
  - Raw beans
    - exports
    - seed
    - direct feeding
- **III Processor Margins**
  - Value of end products
    - total crushing capacity
    - alternative products for crushings
- **IV General**
  - Supply and Prices for Competing Products
    - Soybean meal:
      - cottonseed meal, animal and fish proteins
      - corn, oats and grain sorghums
    - Soybean oil:
      - lard, cottonseed, olive
      - peanut, corn
      - linseed, copra
  - Consumer Income
    - Per Capita disposable income
  - Level of Economic Activity
    - GNP:
      - domestic
      - foreign
  - General Price Level
    - Consumer Price Index
    - Commodity Price Level
- **V Special**
  - Seasonal
    - Harvest:
      - hedge pressure
      - time of harvest
      - weather during harvest
  - Government Reports
    - USDA:
      - crop estimates
      - stocks in all positions
      - estimate of supply and demand
  - Bureau of the Census
      - crushings
      - exports

calculation of demand, he often uses the futures market. At the time of buying cash beans, he will sell equivalent quantities of oil and meal for future delivery. Thus, no matter what happens to the various price relationships between the raw beans and the by-products, the processor has a guaranteed margin of profit. The processor has another alternative. If he thinks the profit margin is too low, he will buy oil and meal futures against the sale of distant soybeans. In the long run, the price of soybeans is determined by the demand for oil and meal less a normal processing spread.

Used as an edible oil, soybeans go into shortening, margarine and salad dressing. Edible oil utilization accounts for over 90% of total soybean oil consumption. The remaining portion winds up in non-food uses—notably paint, varnish, resins and plastic. The non-edible disappearance of soybean oil is relatively stable over the years and is declining as a percent of total soybean oil utilization.

Probably the main factor accounting for the rapid rise in soybean oil consumption is its adaptability and versatility. Soybean oil is an excellent substitute for animal fats for shortening, and it is interchangeably used with cottonseed oil for margarine. The tremendous growth in popularity of these two products helped to stimulate the large production of soybeans.

The single most important vegetable oil product is shortening. Over 34% of the domestic disappearance of soybean oil and 26% of cottonseed oil go into shortening. There is strong competition between the various edible oils and animal fats for the shortening market. Much depends on the price relationships over a period of time since manufacturers prefer to continue using the same ingredients in their formulas. Before World War II, cottonseed oil ranked first as a shortening ingredient, but by 1946 soybean oil moved into the top slot. During 1956 the ratio of lard used in shortening surpassed that of cottonseed oil. Manufacturers realized that they could substitute lower priced ingredients in lieu of the premium priced product, cottonseed oil.

Today, of the total fats and oils used in the manufacture of shortening, soybean oil comprises about 51%, lard 22%, cottonseed oil 14% and edible tallow 11%. Although a little less soybean oil is processed for margarine than for shortening, the "inexpensive spread" is undoubtedly the fastest growing consumer of soybean oil. In 1947, margarine production from soybean oil was about one-quarter of a billion pounds compared with shortening's three-quarters of a billion pounds. Today, both shortening and margarine made from bean oil are estimated at almost one and one-quarter billion pounds each. In the mid-1930's, the popular oil used in margarine was coconut oil. But many states passed laws taxing imported oils. The initial effect of this legislation was to substitute cottonseed oil for coconut oil. Cottonseed oil was selected over soybean oil because the latter has a flavor-reversion tendency. Over the years, however, strides in soybean oil technology have alleviated the oil's reversion drawbacks so that today almost 10 times as much soybean oil goes into margarine as does cottonseed oil. Margarine consumption is expected to maintain a good growth rate since its principal rival, butter, is not expected to be reduced in price.

Within the realm of salad and cooking oils, again the consumption trend over the years has been to soybean oil. For example, in 1947 cottonseed oil exceeded soybean oil's use in this category by over 200 million pounds. Today, almost 100 million more pounds of soybean oil goes into cooking and salad oils, than does cottonseed oil. Competition within the field is primarily confined to the edible oils: soybean, cottonseed and corn. Animal fats, once used widely, really offer no effective competition. Many manufacturers advertise their products as being made from pure vegetable oils and sanction competition among the edible oils.

Soybean oil exports are an important factor determining the price of soybean oil. In 1948, 225 million pounds of oil, or less than 12% of the total bean oil supply, was exported. USDA economists predict that in the crop year, beginning last October 1st, over 1.5 billion pounds, or 32% of total supply, will be shipped overseas. Much of the oil leaving the U. S. is sold for foreign currencies under the Public Law 480 program. Under this statute, countries with low dollar supplies are able to use their own currencies to purchase our agricultural products which are in surplus. In foreign markets, soybean oil competes with several oils but is a very close substitute for olive oil, a crop which presumably is in reduced supply this year. The other principal competitors for soybean oil abroad are copra, lard, and peanut oil.

Soybean Meal

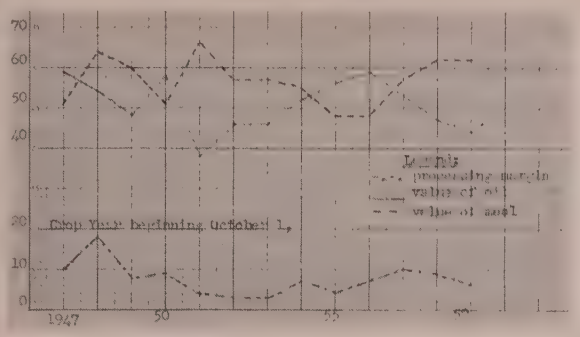
The other major end product of soybeans is soybean meal. It is commonly classified as a high protein feed since its nutrient value (about 44% solvent) is higher per pound than corn, the chief feed grain, whose crude protein content is 9%. Following World War II, agricultural experiment stations have widely heralded high protein meal since, by its feeding, less time is necessary for animals to arrive at the desired marketing weights. Moreover, high protein meals provide certain vitamins and minerals which corn lacks. Some experiment stations believe that corn alone is the most expensive way of feeding hogs because one pound of high protein meal (current price about 3¢) will save about five pounds of corn (current price about 1¾¢) when fed to hogs from 100 to 200 pounds in weight.

Soybean meal production has grown faster than its rival high protein feeds, cottonseed, linseed, and animal proteins. This is significant because soybean meal often accounts for more than 50% of the value of a bushel of soybeans (*Chart II*). In earlier years, processors were concerned chiefly with the marketing of soybean oil and considered revenue from soybean meal as secondary. Today soybean meal consumption vitally affects the crushing rate and the demand for soybeans.

In addition to the supply of soybeans, soybean meal

Chart II

Value of Oil and Meal and the Processing Margin as a Percent of the Price of Soybeans—Crop Years 1947-59



Source: Agricultural Marketing Service, USDA.

prices reflect the size of the total feed supply which includes competing high protein feeds. The total feed supply has been increasing yearly to where, at present, it is a major worry to farm economists. Utilization of soybean meal, however, has been good and there is no surplus problem. The distribution of soybean meal as a feed is as follows: poultry 42%; hogs 30%; dairy cows 10%; beef cattle 13%; sheep 3%; and other livestock 2%. Farm prices for livestock have been satisfactory recently and farmers are willing to buy the best quality feed to enable them to bring their young animals into production in the shortest possible time. Thus, feeding rates have shown steady increases. Livestock and poultry prices are extremely important factors influencing the demand for soybean meal.

The number of animal units on farms also influences the price of soybean meal. Throughout the postwar period the total number of animal units did not change greatly even though individual groups were different. For example, the number of livestock on farms has been increasing while the number of laying hens has been declining. Hog numbers have been steady. But since these animals go through production cycles, various years produce greater demands on the feed supply than others. For instance, cattle are now in their third year of a seven year upward phase in numbers. Laying hen numbers should rise after the relatively small slaughter last year. Since over 85% of all soybean meal goes into commercially prepared feeds, livestock and poultry numbers are a key indicator to consumption trends. The rapid growth of the broiler industry is a good illustration of how demand was increased for commercially prepared feeds and in turn for soybean meal.

Soybean meal exports traditionally account for less than 15% of consumption. In a year where overall demand and supply for soybeans is tight, any slight increase in export demand could have large repercussions on price. European nations buy meal to supplement their own feed stocks. In the crop year 1959, soybean meal exports were high because of shortages of grain overseas. But the current year is expected to bring less export inquiries because of plentiful supplies of cheap feedstuffs.

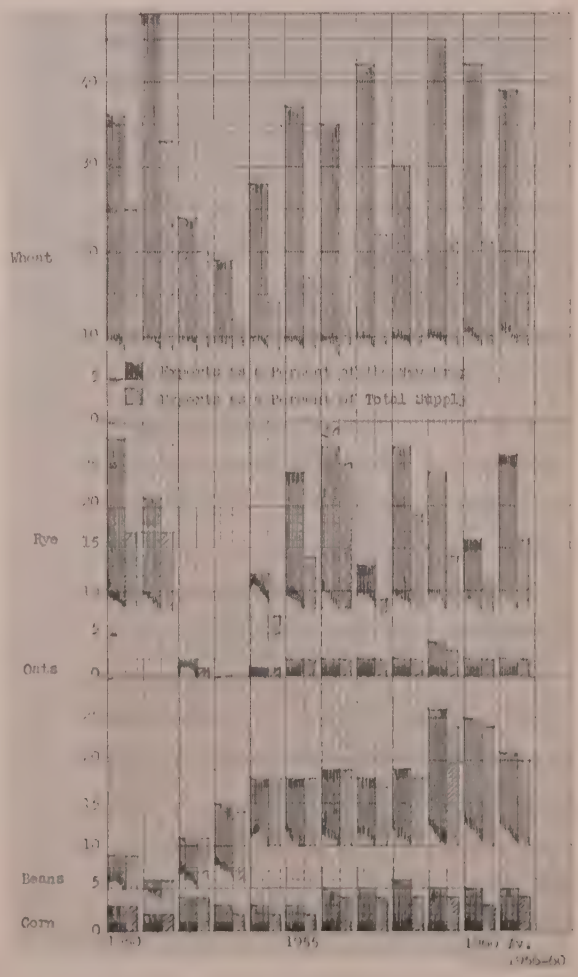
The use of soybean meal for industrial products such as adhesives, washable wallpaper, and paper coating is slight and according to the USDA will remain unimportant compared with meal's use as a livestock feed. Recently soy flour has come into prominence. It is a major ingredient in the 900 calorie diets so fashionable today. It is too early to fully evaluate its potential in this product.

Soybean Exports

In every analysis of supply and demand made by the USDA at the beginning of the season, there is a provision for exports. This figure is very important as a price factor since soybean exports account for about 24% of total supply. It is even greater when compared with new crop production alone. Unlike other crops that we export, soybean exports are a substantial part of both total supply and of the new crop (*Chart III*). This is significant because we can not open storehouses of

Chart III

The Importance of Exports In the Disappearance of Our Major Grain Crops, 1950-1960



Source: Agricultural Marketing Service, USDA.

Table VI

Value of a Bushel of Soybeans at Chicago, Related to the Prices of Oil and Meal at Decatur*

Meal, Dollars Per Ton	Oil, Cents per pound										
	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0
52	1.97	2.03	2.08	2.14	2.19	2.25	2.30	2.36	2.41	2.47	2.52
53	2.00	2.06	2.11	2.17	2.22	2.28	2.33	2.39	2.44	2.50	2.55
54	2.02	2.08	2.13	2.19	2.24	2.30	2.35	2.41	2.46	2.52	2.57
55	2.04	2.10	2.15	2.21	2.26	2.32	2.37	2.43	2.48	2.54	2.59
56	2.07	2.13	2.18	2.24	2.29	2.35	2.40	2.46	2.51	2.57	2.62
57	2.09	2.15	2.20	2.26	2.31	2.37	2.42	2.48	2.53	2.59	2.64
58	2.11	2.17	2.22	2.28	2.33	2.39	2.44	2.50	2.55	2.61	2.66
59	2.14	2.20	2.25	2.31	2.36	2.42	2.47	2.53	2.58	2.64	2.69
60	2.16	2.22	2.27	2.33	2.38	2.44	2.49	2.55	2.60	2.66	2.71
61	2.18	2.24	2.29	2.35	2.40	2.46	2.51	2.57	2.62	2.68	2.73
62	2.21	2.27	2.32	2.38	2.43	2.49	2.54	2.60	2.65	2.71	2.76
63	2.23	2.29	2.34	2.40	2.45	2.51	2.56	2.62	2.67	2.73	2.78

* Assumptions:
1. Each 60 lb. bushel of soybeans yields 47 lbs. meal, 11 lbs. oil.
2. The average processing margin per bushel is 22 cents.
3. Soybeans at Chicago sell 9 cents per bushel higher than they do at Decatur.

beans to satisfy export demand as we can do in the case of wheat. Thus, a small change in export demand could have a large effect on soybean prices.

Soybean exports have shown a phenomenal rise (*Table II*). Partly this is due to the emergence of the U. S. as the major producing country. Partly it reflects the increased utilization of soybeans throughout the world. And partly it results from the failure of other countries to expand their soybean acreage adequately. Exports have increased each year since 1951. This has occurred despite increases in exports of the end products. And as previously mentioned, foreign countries are anxious to build their own crushing plants. U. S. soybeans probably account for at least 70% of all soybeans moving in international trade.

Processor Margins

The normal marketing channels of soybeans is from farmer to country elevator, to interior dealer, to processor. The overwhelming majority of beans are first purchased by the country elevator and then supplies are gathered by interior dealers who sell them to the processor. The processor crushes beans for oil and meal. Many processors are vertically integrated so that they sell the by-products directly. In general, the vertically integrated firm can continue to crush beans longer at lower processing margins. Over the past several years there has been a trend to integration and processing margins have declined (*Chart II*).

Nevertheless, the processor will purchase beans only if he believes the value of the by-products will produce a favorable profit. He will buy beans at a price equal to the value of soybean oil and meal less his desired margin. *Table VI* is presented as a guide to determine the price of a bushel of soybeans at Chicago based upon the value of the end products at Decatur, the hub of the soybean industry. The USDA estimates that between 22¢ and 23¢ is the average processor's profit margin per bushel.

The crushing capacity for soybeans increased greatly over the years. Today it is estimated at 525 million bushels. Actual crushings should total around 400 million bushels. With so much additional capacity, there is strong competition for beans, and marginal processors often shut down when profit margins narrow. Moreover, beans and cottonseed can be crushed at the same plant which provides work for crushers in times of poor soybean margins. Large crushing capacity exerts additional pressure on margins.

Other Factors Affecting Prices

In addition to the specific factors that affect soybean prices, some general influences are always a consideration. First, demand for soybeans does not solely depend on the demand for its by-products, but also is affected by the demand for competing products as well. Soybean oil, for instance, is a close substitute to cottonseed oil and lard in some products. Thus, a scarcity of soybean oil might not cause a major price advance if its competing oils and fats were not in reasonably tight supply. Outside of a few special cases, e.g., cottonseed meal is not used for poultry rations because it tends to turn refrigerated yolks yellow, soybean by-products are easily substituted and accordingly must be viewed against the entire spectrum of competing products.

Secondly, the outlook for consumer income will influence soybean prices to some extent. High per capita disposable income will enable consumers to buy poultry and livestock products at favorable prices to producers. The latter, in turn, will be eager to purchase premium feeds. Also, the general level of economic activity tends to affect all prices for obvious reasons. And farm prices react sharply to changes in economic activity since there are little or no "sticky" charges built into the product. A moderate downturn in business will cause farm prices to drop first and the cuts will be more severe than prices for manufactured goods. Lower farm prices will carry over into the price for soybean by-products. Likewise,

general economic activity abroad is important as a factor influencing demand for exports. It is only natural to expect restrictive measures to be taken against imports by those countries whose trade balances are in the red and whose business activity is slow.

Special factors affect soybean prices. Weather conditions at planting or harvest times can bring speculators into the futures market *en masse*. The cash prices will be changed, but the futures price might be driven completely out of line. For example, in last season's market, poor weather delayed the harvest. A large speculative interest bought beans on the premise that these delays would further reduce the already small crop. When these expectations failed to materialize, selling waves engulfed the market and declines were exaggerated because of the many contracts waiting to be liquidated.

Government Reports sometimes have a notable effect on soybean prices. During the late summer and continuing into winter, the USDA releases estimates of crop size. In a year such as the present one, where a few million bushels can substantially tighten supplies, these reports can stimulate buying or selling depending upon their outcome. Periodic reports are released by the USDA stating the amount of soybeans located throughout the country. Occasionally, they catch the trade off guard by not concurring with expected disappearance. There are two government agencies that report disappearance: the USDA and the Bureau of the Census. The USDA Stocks in all Positions Reports never quite equal the Census figures and should there be a wide disparity, the futures market will be affected, dramatically.

CONCLUSIONS AND OUTLOOK

The bull market in soybeans continues, but it is vulnerable. At terminal markets, prices have advanced more than 90¢ per bushel from harvest lows. Processor buying is very light. New export orders are disappointing. Soybean oil prices have risen steeply and quickly. They are at levels which should discourage foreign orders. For example, copra, a competitive oil which is normally priced higher than bean oil, can be delivered in European cities at a cheaper price. Soybean meal prices likewise have experienced a substantial price jump. The total feed supply, and the supply of competing high protein meals, should be large enough to limit further price gains. Processing margins are slim. They are so narrow, in fact, that some crushers have already either closed plants or slowed operations.

World soybean supply — an imponderable factor at present—will play a decisive role in determining soybean prices over the next few months. U. S. soybean stocks on Jan. 1, 1961 were 6% less than a year ago. The USDA predicts that 10 million bushels will comprise the carryover next October 1st. It assumes that domestic crushings will rise, but that exports of raw beans, although currently 10% higher than last year's figure, will not differ from that of last season. And this is why world supply looms so important. The USDA places Chinese soybean supplies at the same size as that of 1959. So far, though, Chinese exports are considerably under those of last year. Chinese reports continually emphasize the reduction of agricultural output due to bad weather. The futures market has given credence to the Chinese reports. Should China's soybean exports increase notably, the futures market undoubtedly will face heavy liquidation. Conversely, if reports prove accurate, the USDA prediction of exports may be low, and export demand may impart continued firmness to the market.

In bull markets, prices tend to reach their peaks early in the season. When prices have advanced substantially and rapidly, demand subsides. Prices must retreat to levels where demand can again be stimulated. It appears that soybean prices much above $3.00 per bushel are approaching a level where demand should decrease barring the development of an international crisis.

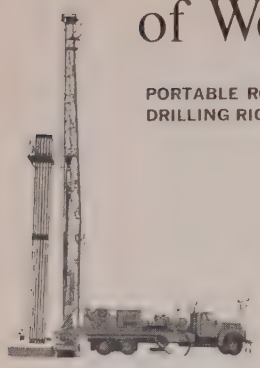
Demand for soybean by-products is not aggressive enough to permit satisfactory crushing margins. In addition, the technical position of the futures market is vulnerable. Open interest, representing the number of contracts yet to be closed, is at a record high. It amounts to almost one half of the entire crop. With so many contracts over-hanging the market, unexpected news could immediately trigger wholesale liquidation. At any rate, price movements for the balance of the season are likely to be wide and should offer exciting trading opportunities daily as well as over longer time periods.

Over the longer term, soybean supply and demand should both continue to rise at perhaps a slightly accelerated pace. Soybean by-products are being used by more people throughout the world as news is spread about the soybean's great versatility and substitutability. As living standards improve, more soybean meal will be consumed through meat. Soybean meal's demand will get a big lift as livestock and poultry numbers grow. Furthermore, new uses for soybeans, such as soy flour's inclusion in the 900 calorie diets, will spur consumption.

In the next few years, at least, the United States will remain the world's largest producer and consumer. Our 1961 output should be considerably above that of this season due to the very favorable prices producers received. The U. S. share of world production, however, will probably decline in the future. More countries are growing soybeans. And since the soybean plant lends itself to a wide variety of soils, nations already harvesting beans will expand production further.

A big stimulus to larger soybean acreage would be improvement in international politics. Current international tension is playing havoc with normal trade in soybeans. For example, Japan buys the majority of beans from the U. S. rather than from nearby China. Should the political weather brighten, one may expect southeast Asia, the cradle of the soybean, to regain its predominance in soybean output. Meanwhile, soybean production and consumption—despite year to year fluctuations—should continue to be in close balance. Price charts are likely to show steep peaks and troughs reflecting short crops followed by years of expanded production.

1960 Annual Report shows diversification of Westinghouse Air Brake Company



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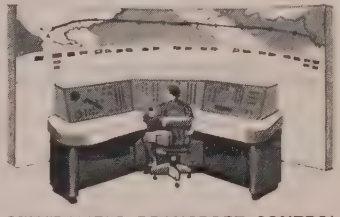

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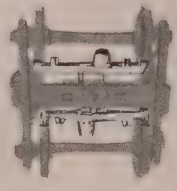

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Air Brake Division · Union Switch & Signal Division · Industrial Products Division · Le Roi Division · George E. Failing Company
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WABCO **Westinghouse Air Brake Company**

Financial Benefits in Railroad Mergers

by Pierre R. Bretey

For the first time since the railroads became regulated some 70 years ago, the political climate provides a sympathetic background for large scale mergers notwithstanding opposition from both labor and certain sectors of industry, including the railroad industry itself.

Yet despite such an improved climate, the stock market has looked upon current merger developments with jaundiced eye, possibly emphasizing the difficulties mentioned herein while at the same time overlooking what has already occurred, namely mergers already consummated between the Norfolk & Western and the Virginian, the Chicago & North Western and the Minneapolis & St. Louis, the Erie and the Lackawanna, and the Soo Line with the Wisconsin Central and the Duluth South Shore & Atlantic.

Presumably the market prefers to await developments dealing with currently proposed mergers such as those involving the Seaboard Air Line and the Atlantic Coast Line; the Northern Pacific, the Great Northern and the Chicago, Burlington & Quincy; and the Norfolk & Western, the Nickel Plate and the Wabash.

As a possible clue to Interstate Commerce Commission thinking we would draw attention to the principles laid down by this regulatory body in the Erie-Lackawanna decision. In that decision the Commission ruled that the Washington agreement for the protection of labor would take precedence over any other proposed method of compensation, and that complaints of competing railroads which would suffer from the competition of the merged roads should be dismissed in the interest of public good.

Labor did not take kindly to this Commission decision which upheld the Washington agreement under which any employee whose job is abolished within five years following effective date of a merger, must be offered either another job at no loss of pay, or in its stead, severance pay for the period displaced. The Brotherhoods insisted on a virtual job freeze in connection with the Erie - Lackawanna merger, i.e., that under no circumstances should any employee be displaced or dismissed by reason of the merger. Be it noted, that these unions threaten similar action in the case of all future mergers.

Thus far, however, labor has made little progress in such a contention. Only recently, a special three judge Federal court in Detroit dismissed an attempt of the railroad unions to overturn the Interstate Commerce Commission approval of the Erie-Lackawanna & Western merger. Future legal decisions appear necessary to clarify this impasse since all signs point to the Brotherhoods appealing to the United States Supreme Court to reverse this adverse (to the unions) three judge Federal court decision.

A further observation of the important Erie-Lackawanna decision might well be made. In future mergers, less effective opposition of other railroads in halting such proposals seems likely, since the Commission plainly stated that complainant railroads would receive short shrift at their hands.

Security Holders' Action

However, complainant railroads adversely affected by merger developments may well employ delaying tactics somewhat comparable to those followed by security holders who felt themselves unfairly treated in the early 1940s by reason of drastic Section 77 reorganization provisions. Such delaying tactics have already been seen in the Seaboard Air Line-Atlantic Coast Line merger hearings where attorneys representing both the Florida East Coast and the Southern Railway have been threatening to delay this proposed merger indefinitely.

Should the courts, however, uphold the Commission with respect to both its labor and public policy rulings, then shippers would obtain far better, speedier and cheaper transportation from such integrated systems, with investors in turn benefiting from the financial improvement arising from the formation of enlarged transportation systems. Such benefits would include the consolidation of present earnings with equities of undistributed earnings of subsidiaries in contrast to the present method of reporting earnings only on a non-consolidated basis, and the realization of major savings through elimination of surplus trackage.

Important as is a radical improvement in railroad service for the benefit of shippers as an essential ingredient in improving railroad earning power, emphasis in this paper will be primarily directed towards developing the financial advantages to investors from merger developments. Therefore, we may properly address ourselves to the nature of such financial advantages.

One important probability following consummation of large scale mergers is a major change in market appraisal of railroad earning power since presently the market gives little or no recognition to that portion of a railroad's net represented by its equity in the undistributed earnings of its subsidiaries.

Market fluctuations of Northern Pacific are a case in point. Investors have constantly appraised Northern Pacific on the basis of actual earnings as reported, which have averaged $3.58 per share over the past five years. Consolidated earnings including Northern Pacific's equity in the undistributed earnings of the Burlington and the Spokane Portland & Seattle, have averaged $4.36 per share in this period. This additional earning power of 78 cents per share has consistently been ignored by the market in recent years.

A similar experience might be cited in the case of market fluctuations in Pennsylvania Railroad common stock. For the past five years, earnings as reported on Pennsylvania common stock have averaged $1.71 per share. However, consolidated earnings, which include Pennsylvania's equity in the undistributed earnings of its subsidiaries, averaged $2.43 per share. As in the case of Northern Pacific, the additional earning power of 72 cents per share has consistently been ignored by the market over the past several decades.

Of almost equal importance to investors, are potential savings obtainable by the railroads in abandoning surplus trackage. Such abandonments are now made possible by reason of a present surplus of transportation facilities, inasmuch as an approximate 50% of over-all railroad traffic is now concentrated on only 2% of the industry's 217,700 miles of track. Abandonment of any worthwhile amount of this surplus or marginal mileage would permit the more important railroads to obtain large scale economies such as:

(a) the recovery of salvaged material at the rate of $5,000 a mile;

(b) the reduction of annual track maintenance expenditures by an approximate $3,000 per mile;

(c) the possible generation of windfall cash payments by reason of the sale of already graded existing roadbeds to various State bodies for building new highways;

(d) the creation of substantial carry forward tax credits;

(e) the possible disposal, wherever owned, of large parcels of val-

(*Continued on page* 106)

Dr. Pierre R. Bretey is a general partner with Hayden, Stone & Co., and editor of The Financial Analysts Journal.

'Standard Financial English' —Here and Great Britain

While British and American brokers are not known for any remarkable sense-of-humor, there is one field in which the moneymen lean toward a bit of old jolly levity: it's the colorful nicknames given to sundry stocks. And this has resulted, says *The Exchange,* published by the New York Stock Exchange, in "standard financial English."

U. S. traders speak of *Bug* for Brooklyn Union Gas; *Mickey Mouse* for Disney Productions; *Tin Lizzy* or *Flivver* for Ford Motors — even though this nickname is now antiquated; *Big Boy* for Superior Oil of California (because it's the highest price stock listed on the NYSE); *Thyroid* for Thiokol Chemical; and *Marilyn Monroe* for Welbilt Corp.

Then, continues *The Exchange,* "the list contains many examples of names which have been coined merely to match the letters making up the code symbol. Thus, TG, symbol for Texas Gulf Sulphur, becomes *Tough Guy;* UK, for Union Carbide, *Ukelele;* WM for Western Maryland Railroad, *Wet Mary;* and FW for Fairbanks Whitney, *Fuzzy Wuzzy.*

"In some instances the three letter symbol spells a common word and the company becomes known by it. In this category are GUY, symbol for General Public Utilities and its resulting nickname, *Guy;* and PEG for Public Service Electric & Gas Company of New Jersey. Other symbols are suggestive, such as Glo-Worm which is derived from Corning Glass Works' symbol GLW."

On The London Stock Exchange, *Kangaroos* refers to Australian stocks; *Gussies* are shares of Great Universal Stores; *Imps* indicate Imperial Tobacco Co., Lts.; and *Emmies* are Electrical and Musical Industries, Ltd.

Change of Address

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BRITISH COLUMBIA POWER CORPORATION, LIMITED

and Subsidiary Companies

CONSOLIDATED STATEMENT OF INCOME

for the Year Ended 31 December 1960

(with corresponding figures for the year ended 31 December 1959)

	1960	1959
Gross revenue from operations	$103,297,019	$96,923,531
Deduct—		
Employment costs, materials and outside services, etc.	39,074,589	39,799,535
Provision for depreciation	15,074,582	13,740,647
Required for government:		
Provision for taxes on income	12,370,469	11,487,056
Property taxes	5,127,181	4,529,981
Other charges	1,276,451	1,187,694
Total operating expenses	72,923,272	70,744,913
Operating income	30,373,747	26,178,618
Add—		
Non-operating income:		
Return from temporary and other investments, etc.	1,582,495	1,135,574
Profit through redemption of bonds and debentures at less than principal amount	592,493	289,719
Interest charged to construction	3,136,528	4,616,587
	35,685,263	32,220,498
Deduct—		
Interest on long term debt	18,789,818	15,178,062
Amortization of discount and expense on long term debt	720,880	705,055
Minority interest in earnings of a subsidiary company	—	65,029
Net income for the year	16,174,565	16,272,352
Deduct—		
Dividends on shares owned by the public in subsidiary companies:		
British Columbia Electric Company Limited	4,952,136	4,952,136
British Columbia Electric Railway Company Limited	25,180	48,724
Earnings for the year on Common Shares of parent company:		
Amount	$11,197,249	$11,271,492
Per share on 4,721,361 shares (1959—4,549,756 shares) outstanding at year-end	$2.37	$2.48

CONSOLIDATED STATEMENT OF EARNINGS EMPLOYED IN THE BUSINESS

for the Year Ended 31 December 1960

(with corresponding figures for the year ended 31 December 1959)

	1960	1959
Earnings employed in the business as at the beginning of the year	$24,547,459	$20,365,212
Capital surplus merged therein	—	505,515
Amount transferred from capital surplus	1,000,000	—
	25,547,459	20,870,727
Deduct—		
Interest in earnings employed in the business of a former subsidiary	80,848	—
Provision against possible loss on investments	1,000,000	1,000,000
Fees to increase authorized share capital	—	225,303
Expenses on issue of Common Shares of parent company and of British Columbia Electric Company Limited	13,337	—
	24,453,274	19,645,424
Add—		
Earnings on Common Shares of parent company per consolidated statement of income	11,197,249	11,271,492
	35,650,523	30,916,916
Deduct—		
Dividends on Common Shares of parent company	6,771,728	6,369,457
Earnings employed in the business as at the end of the year	$28,878,795	$24,547,459

Copies of the complete Annual Report may be obtained by writing to British Columbia Power Corporation, Limited, 970 Burrard Street, Vancouver 1, B.C.

Letters

An Apology Demanded . . .

Editor:

The January - February 1961 issue contains an article "Investment Companies: Performance vs. Charges (Part I)" to which in the interest of accuracy, and possible damage, a correction must be made.

In the Appendix the co-authors state: "Thus effectively, Johnson's method ignores purchasing and closing charges." This reference is to the method of presenting performance records contained in "Johnson's Investment Company Charts."

I can assure you that this is an absolute misstatement of the mathematical and stated facts involved. I will not explain this in detail for Messrs. Hochmuth and Bowes Jr., the co-authors, since they have presented the subject as purporting to be an examination of authority.

Your interest in the accuracy of reporting in your very good journal should command your immediate attention. My demand for an immediate retraction is very important.

Hugh A. Johnson
Hugh Johnson & Co., Inc.
Members, N. Y. Stock Exchange
Buffalo, N. Y.

. . . And Graciously Accorded

Editor:

The authors are both embarrassed and flattered by the letter written by Hugh A. Johnson relating to their article "Investment Companies: Performance vs. Charges (Part One)." The embarrassment arises because we admittedly misinterpreted the handling of mutual fund purchasing charges as presented in "Johnson's Investment Company Charts."

The statement in our footnote 2 (FAJ Jan.-Feb. 1961, p. 48) referring to Mr. Johnson's method of treating purchasing and closing charges is partially inaccurate. We do point out that the Johnson graphs are based on initial net asset value (i.e. the load charge is deducted from the initial gross investment). This statement, of course, indicates that Mr. Johnson's method contains a refinement not included in the methods used by most other services. We err, however, in stating that the bar charts published by Mr. Johnson to show liquidating values are based on the amount of the initial gross investment, "rather than the initial net asset value." We are glad to set the record straight, particularly since in so doing we can credit Mr. Johnson's method with effectively recognizing load charges throughout the publication.

We are flattered that Mr. Johnson, a recognized authority in the mutual fund field, took the time to read the article carefully. This is especially true in view of the fact that the authors have not tried to imply that they consider themselves authorities in the field. Since we have no present or anticipated occupational interests in the mutual fund field—or the services related thereto — we trust that Mr. Johnson will recognize that the error was an honest one. We should also like to emphasize that this error, while unfortunate, has little or no bearing on the degree of validity of the concepts and conclusions expressed in this article.

Wayne P. Hochmuth
Arthur S. Bowes, Jr.

* * *

Re Regional Convention in St. Louis

We are perfectly delighted with the fine spread devoted to the St. Louis Regional Convention in the last issue of The Financial Analysts Journal. While the lead article is not a surprise, to actually see the pictures and resumes of forums and field trips, all in print, makes an impressive showing and again confirms our impressions of a successful Convention. We are grateful to you for allotting so much space to the Convention and for the splendid manner in which the story is prepared.

George R. Hays, President
The St. Louis Society
of Financial Analysts

Just a note to let you know that the copy of the January-February 1961 issue of The Financial Analysts Journal has been received. I was very interested in your editorial and photographic coverage of the Regional Meeting of the St. Louis Society of Financial Analysts and appreciate your making this issue of the Journal available to me.

Walter E. Hoadley
Vice President and Treasurer
Armstrong Cork Company

Now that I have read your editorial and photographic coverage of the St. Louis Regional Convention, I want to say that I believe it excellent and I am pleased to know that those of us in St. Louis helped to make the meeting reasonably worthwhile.

T. G. Rutledge
Vice President-Secretary
McDonnell Aircraft Corp.

I have received your publication which you so thoughtfully sent me. I enjoyed very much looking over the copy and if we can be of help to you at any time, please let us know.

Henry R. Rand, President
International Shoe Co.

I wish to thank you for sending me the January-February issue of your magazine and I want you to know that I enjoyed the article about the St. Louis Regional Convention. I was particularly flattered also to receive a

FIFTEEN YEARS AGO IN THE JOURNAL

The best-known and widely publicized—and one of the most valuable—uses of the averages in market study is what is called the "Dow Theory." This theory has been evolved over the past 45 years by a number of prominent market students and writers. It is so named because the basic tenets were sketchily laid down by Charles Dow in 1901-02, shortly after he started regular publication of the Dow-Jones Industrial and Rail Averages. The chief tenet of this theory is the fact that the averages serve as their own barometer.

Another important tenet of the Dow Theory is the fact that both averages —the industrial and rails—must confirm a penetration of a previous high or low, before such penetration becomes a safe one to act upon. Since the Utility Average was started at such a late period of Dow Theory study, it has not been included in this study. Moreover, in recent years public utilities have been so influenced by developments peculiar to themselves —especially in the political field—that their movement is often contrary to that of the other more important averages.

A number of interesting research projects have been developed, using some variation of the Dow Theory. Instead of the Industrial and Rail Averages, some students have used two group averages, such as, for example, the steels and automobiles. Any other group averages, or any of the other published general averages, could be used for this purpose. Samuel Moment, of Stamford University, made a Dow Theory study in 1934, in which he modified the orthodox Dow Theory, eliminating confirmation and putting stress on the action of only one average. Every market student must, of necessity, evolve his own interpretation of the Dow Theory and the action of the averages in general. The Dow Theory, like most market studies, is constantly in a state of transition.

—Helen E. Dickinson
Gartley & Associates, Inc.

marked copy from our President, Mr. Stanley de J. Osborne, who evidently reads your magazine from cover to cover.

Russell R. Casteel
Vice President
Olin Mathieson Chemical Corp.

It was indeed kind of you to send me a copy of your January-February issue with the very fine reports on the Financial Analysts' meeting in St. Louis.

Nat C. Robertson
Vice President
Spencer Chemical Co.

* * *

Interest in Commodities

Editor:

The high level of erudition displayed in your reports about Commodities (High Finance in . . .) has aroused my interest in your Journal. I should like to subscribe.

Archie Silver, M.D.
Montreal, Canada

* * *

And Thank You Mr. Packer

Editor:

I should like to express appreciation for the manner in which you handled my article "Why Buy Bonds?" Your handling of subheads and breaks added to the readability of the article.

Stephen Packer
Standard & Poor's Corp.
New York, N. Y.

* * *

Anyone for Success?

Editor:

I have been so impressed by the new look of The Financial Analysts Journal, but have not had the time to sit down to write you. Keep up the good work. I have been studying the technical approach (chart) to stock movements with great success over the last 10 years. My interest would be to join hands with anyone studying and trading on this same approach. Thank you for your kindness.

Marvin Friedman
New York, N. Y.

* * *

Wie geht's

Editor:

When last in Germany I was asked to address die Deutsche Vereinigung fur Finanzanalyse und Anlageberatung (German Society for Financial Analysts and Investment Council) at their monthly meeting in Frankfurt. As the subject of my talk, I chose "Today's standing of the Security Analyst in the American investment community and the attitude of corporate management towards the Analysts' work and the methods used by Analysts." Judging by the many questions asked subsequently, the subject must have been of particular interest to the small group of professional investment advisors which did not exist in Germany until quite recently.

The Frankfurt Analysts Society was formed only a year ago and is hard at work to establish Financial Analysts in a position similar to the one enjoyed by its counterpart in this country.

Herbert von Metzler
Smith, Barney & Co.
New York Society of
Security Analysts

RAILROAD MERGERS

(*Continued from page* 103)

uable real estate, usually located in downtown areas, and no longer needed in the light of the changing status of the railroads. Such real estate could be sold for industrial or warehouse purposes, or in special instances, apartments, hotels or office buildings could be erected as has been the case on New York Central land located on Park Avenue in New York City and on Pennsylvania land located in downtown Philadelphia.

Admittedly space limitations prohibit a more complete treatment of this complex subject. However, the investor may better envision the financial possibilities opened up by merger developments (again assuming that the Commission and the Courts uphold the principles laid down by the former in the Erie-Lackawanna merger) were we to revert again to the situation in Northern Pacific (price 42, dividend $2.20, yield 5.24%) and in Pennsylvania (price 11½, dividend $0.25, yield 2.17%).

As noted, consolidated earnings of the Northern Pacific have averaged $4.36 per share for the past five years, to which should be added after-tax merger savings of $1.75 per share, or a total of over $6.00 per share, almost twice the average reported earnings of $3.58 per share during this period. Additionally, Northern Pacific shareholders may well look forward to an increase in dividends from a present $2.20 rate to $2.725 per share immediately following consummation of the proposed merger and to $3.00 per share some five years thereafter. The transformation of this company's earnings in the event of approval of this merger, will doubtless make itself strongly felt marketwise.

Even more spectacular potentials exist with regard to Pennsylvania common stock. To the System's consolidated earnings for the past five years of $2.43 per share, might well be added potential merger savings—free from Federal income taxes for a minimum period of five years—of $150 million. Such savings would be applicable to Pennsylvania's presently outstanding 13,167,000 shares.

Additionally, both the railroad and the Pennsylvania Co. own 2,397,284 shares of Norfolk & Western, market price of which is equivalent to $18 per Pennsylvania common share, currently selling at 11½. Should approval to the Nickel Plate-Wabash merger with the enlarged Norfolk & Western be granted by the Commission, the Pennsylvania would in due course acquire 675,000 additional Norfolk & Western shares in exchange for its present holdings of 598,186 Wabash common shares.

Value of the company's over-all Norfolk & Western holdings following consummation of that merger — assuming no change in Norfolk & Western's market price of $98 per share—would be $23.06 per Pennsylvania share, or twice present market value of this depressed equity.

A still further potential in the Pennsylvania picture is the ownership of large parcels of valuable real estate, usually located in downtown areas in those cities served, and which may well be appraised well in excess of $100 million.

Summarizing, should the Commission's principles as enunciated in the Erie-Lackawanna merger be upheld by the Courts, and should present mergers as planned be consummated, then the market impact of Pennsylvania's transformation would then appear to border on the spectacular.

The 1961 Beloit Seminar

by Howard Tharsing

As the 1961 Financial Analysts Seminar, at Beloit, approaches (Aug. 21-26), we are reminded of last year's session where many interesting and highly informative discussions were held.

And in particular we are reminded of John Langum's contribution in his discussion of the many variables which must be analyzed and considered in reaching a conclusion on the economic outlook. These involved analysis of the basic ingredients of the long-term growth trend of the economy, the intermediate problems of the business cycle, the monetary factor, and psychological considerations. Among the interesting techniques which he developed were the relationship of money supply to Gross National Product, and the possible effect on money supply of substantial reductions in government debt. In the field of population growth his observations on relative percentage changes in the last three decades, and prospective increases in the next decade, suggest an approach to analysis which may have considerable value. Mr. Langum's analysis definitely indicated a need for a clear understanding of Federal fiscal policy, not in a vacuum but as an important component of both monetary supply and consumer income on one hand and as a factor in interest rates and corporate financing problems on the other.

Both Beryl Sprinkel and James Dawson developed methods of analyzing trends in some of the important factors affecting both the level of economic activity and security prices. Mr. Sprinkel's discussion of the use of rate of monetary growth as a leading indicator technique and, of the use of a diffusion index of the "indicators" developed by the National Bureau of Economic Research, was both interesting and provocative. Mr. Dawson's examination of the record of the techniques of short run forecasting, including timing, indicators, the application of diffusion techniques to business indices, inventory relationships, monetary trend analysis and the model concept, provided a thoughtful appraisal of the risks inherent in complete dependence on these tools (at least in their present state) as well as pointing up their value in assisting the analyst to reach a sound decision.

If "money makes the mare go," then the attending seminarians received invaluable aid in their understanding of the basic factors involved in fiscal policy from the discussions led by Professors Ezra Solomon and Walter Heller covering this topic. Professor Solomon's discussion of Monetary and Credit Policies suggested several present limitations on effective monetary control which may not have been present during the last several years and indicated the need for a sound understanding of international monetary factors, as well as for an understanding of the dynamic role of monetary policy in the domestic economy and the relationship of money supply to GNP. Professor Heller's review of Federal fiscal policies and debt management pointed up the necessity of examining not only the moderating effect of present tax rates on the business cycle, but also the political factors operating in any attempt to revise tax policy.

Similarly, Dr. Arthur Marget's exposition of the mechanism of the balance of payments and the factors involved in the U. S. balance of payments problem pointed up the necessity for developing methods of analysis in this area These must take into account all of the facts of the situation, including a careful analysis of the very good statistical information which is available.

In the field of security analysis and formulation of investment policy, there were very complete and interesting presentations of over-all policy development made by Messrs. Ragnar Naess, Edward Rubin, Joel Segall, and Lewis L. Schellback, as well as an analysis of environmental exposure as the mainspring of corporate growth presented by Paul Lovewell. These, of course, were in addition to the provocative analysis of the relation of changes in the rate of growth of money supply with changes in the trend of stock prices. This was part of Mr. Sprinkel's contribution to the Seminar, as he also covered the use of this tool in analysis of business trends.

Of special interest to most seminarians was Professor Sidney Davidson's presentation of Accounting Pitfalls in Security Analysis with emphasis from a balance sheet viewpoint on the use of the defensive intervals as a measure of liquidity rather than the commonly used current ratio and on possible methods of treating lease liabilities in analyzing capital structures. In appraising income statements, Dr. Davidson drew attention to the many accepted alternative methods now in use for depreciation accounting, inventory accounting and executive compensation, with particular emphasis on past service costs arising out of pension plans.

Howard Tharsing, former chairman of the Board of Regents of The Financial Analysts Seminar, is with Dean Witter & Co., San Francisco. Samuel B. Jones, vice president of Reliance Insurance Co., Philadelphia, is this year's chairman.

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The most recent packaging development is the formation by National and Royal Dutch/Shell of a company to develop the production and marketing of film with Kordite licenses and know-how outside the U. S. and Canada. This is another step in National's program of diversification and growth.

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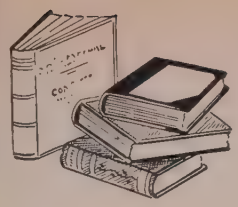


BOOKS for ANALYSIS

PLANNING PRODUCTION, INVENTORIES, AND WORK FORCE. By Charles C. Holt, Franco Modigliani, John F. Muth and Herbert A. Simon. Englewood Cliffs, N. J.: Prentice-Hall, Inc. 419 pages. $10.

Reviewed by
REAR ADMIRAL FREDERICK L. HETTER

(Admiral Hetter, Supply Corps, U. S. Navy, is commanding officer of the U. S. Naval Supply Center at Bayonne, N. J. He is responsible for an operation that sells about $250 million in supplies yearly to ships of the fleet, shore stations and foreign allies. Admiral Hetter is one of the architects of the modern Naval Supply System which is integrated as one large corporation with branches in all parts of the world and with inventory assets of over $10 billion—Ed.).

For many long years, daily use by generalists of techniques developed by specialists has been commonplace.

Glory surrounded the specialist at the inception; however, as more generalists needed the technique, a means of improvising or approximating the finite was developed, and an acceptance of something less than perfection came to the generalist through his own experience in assessing the validity of the variables of the raw components in the equation.

As generalists became even more practical in their need for universal application, especially designed tools came into fairly common use.

My early experiences as a midshipman, while studying ballistics, gave me the then accepted mathematical theory of the subject. Upon going into the fleet, I learned that every gunnery officer had a gimmick or a tool to help do his job within the boundaries of the mathematical equations involved but without the lengthy process of long hand solution. Similar procedures existed in the navigation department and among destroyer and submarine torpedo people.

Since World War II, publications of the Office of Naval Research have had their share of articles on mathematical theories. I am sure that other publications have been printing similar articles.

The philosophy of a generalist using math equations developed by the specialist for problems of material flow, petroleum stowage, and passenger transport has been explored.

I sense that more research work has been pursued in these areas, since the day when colleges have combined arts with sciences to provide a cultured engineer (AB-BS) or science combined with the arts has provided a scientific gentleman (BS-BA). I sense also that as world opinion gave more status to the engineer, more credence was given to the findings of these craftsmen in the fields of commerce and industry.

My previous experience in using math equations to give quick answers to daily material requirements problems world-wide has been within the job construction for computer application. In 1954, many folks disbelieved the practicability of such application. A major decision had to be made: which was better, cheaper, more flexible? Should we hire top flight math people and teach them our system?, or should we reassign our system people and adapt them to the necessary math? Obviously, math specialists were so few in number that we had to teach their findings to our own system people.

Where in our business effort today do we place this fine book by Messrs. Holt, Modigliani, Muth and Simon?

Most of the equations have good potential use by themselves as well as by the built-up master equation. So that management engineers, budgeteers, auditors and planners can better use their work, it seems to me that a cross index built on the basis of a locator file (in business language) honeycombed against the applicable equations is a necessary key to greater utilization.

Since this book deals principally with an integrated company, and were I connected with such, I would use it to set up a model program to check performance. As satisfying results were gained, I would extend the model application to additional areas of likely application.

In quite another management field, apart from the operator, the auditor or comptroller could well use this book to design checking or audit reviews. This use would uncover poor existing procedures in many applications.

A final use which may or may not produce extensive practical value is the design and marketing of tools to

permit local use of the equations by operational personnel. I recall many years ago, every destroyer torpedo officer used an "Is-Was," which was a roughly designed circular slide rule. On it was set the course and speed of the firing ship (known), the course and speed of the target (estimated), the bearing of target from firing ship (known), and the distance (known). From this came quickly the bearing setting for the torpedo. Such an application permitted on-the-spot use of an equation with several variables.

Following this principle, for small businesses not able to pay for computers, I envisage the possible use of "Is-Was" for production, inventory control, reorder and distribution problems. Some progress along these lines has already been made.

A main problem today is getting one echelon to know what another is doing. The Prentice-Hall series of management books can do much to bring together the various echelons —and more important still, to bring together the generalist with the specialist.

* * *

LAUGH WITH YOUR INVESTMENTS, by Regina Barnes. American Research Council, Inc., Larchmont, New York. 96 pages. $2.95.

Should the adage, "misery loves company" apply to the investment fraternity, this collection of cartoons may salve some of the sorrow that comes to most of us mortals at this time of the year. Tax-loss selling, focused by the calendar at this point of no return, saddens investors with an acute awareness of what might have been . . . . if . . . .

This anthology has been compiled by Regina Barnes, the wife of a financial writer of more serious vein. Leo Barnes, Ph.D., has authored, "Your Investments," and "Your Buying Guide to Mutual Funds." The cartoon selections have been drawn from publications such as the Wall Street Journal across to England's "Punch" and include a few timeless caricatures from the works of the French Honore Daumier.

While in a book like this, the favorites of individual readers will vary as widely as reactions to a market letter, this reviewer casts his vote for the earnest advisor counciling eager clients as follows: "the thing for you to do is hedge . . . sell one share and keep one." —*D. H. R.*

* * *

WALL STREET/20TH CENTURY. Revised edition of 1955 publication. Sponsored by The Investment Association of New York. 194 pp.

In this re-publication of the Yale Daily News' *Wall Street* 1955, students and the public at large are offered considerable information from text and pictures. And as for Financial Analysts, there are 24 pages devoted entirely to "Analysis and Evaluation of Securities."

The Analysts section leads off with an article about "Security Analysis as a Career," authored by the Dean of Financial Analysts, Benjamin Graham. Other articles and their Analyst authors are:

"Some Basic Factors Affecting Stock Prices," by Kenneth Ward of Hayden, Stone & Co.; "The Organization and Function of a Research Department," by Henry A. Loeb of Carl M. Loeb, Rhoades & Co.; "The Research Department at Work," by Walter Maynard of Shearson, Hammill & Co.; "Speculation or Investment?," by Gerald M. Loeb, E. F. Hutton & Co.; "The Analytical Approach to Tax Exempts," by Robert C. Richie of Moody's Investors Service; and "Evaluating Foreign Securities," by Carl Marks of Carl Marks & Co.

Other chapters range from a history of Wall Street (of buttonwood tree fame) through investment banking and how the market works.

Sponsors of this particularly interesting and highly informative publication run (alphabetically) from Auchincloss, Parker & Redpath through 92 other investment firms and ends with Wood, Gundy & Co., Inc. —*W. B.*

* * *

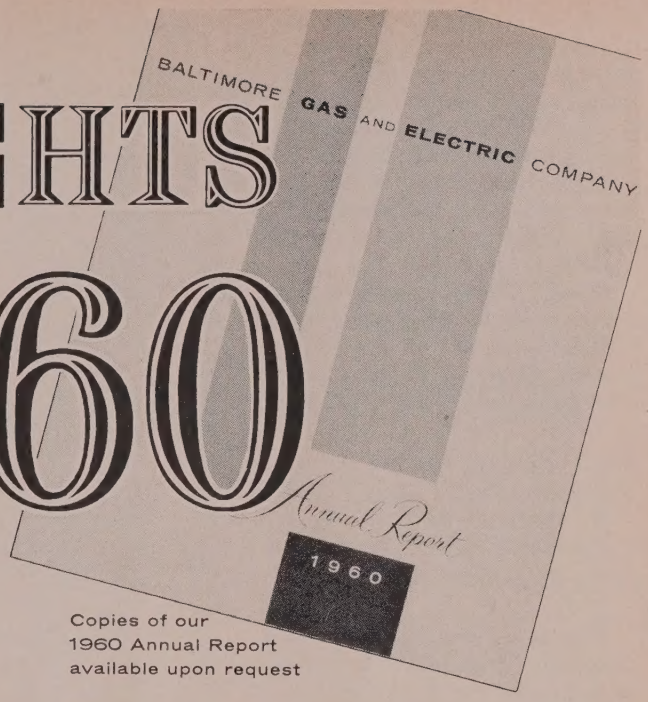
THE GREAT SWINDLE: The Story of the South Sea Bubble. By Virginia Cowles. New York: Harper & Brothers. 191 pages. $3.95.

For a series of disjointed but interesting bits of information about two great historical financial events in England and France, circa the 1720's, this is — we presume — a book of sorts. But it's no particular tribute to the author who has done much better both as to content and organization.

The final chapter is aptly titled "The End of the Affair." And in

HIGHLIGHTS OF '60

DIVIDENDS PAID ON THE COMMON STOCK CONTINUOUSLY FOR MORE THAN HALF A CENTURY ALWAYS EARNED, NEVER REDUCED



Copies of our 1960 Annual Report available upon request

Our business and earnings increased in 1960, although not as much as had been expected. We sold 3% more electricity and 5% more gas than in 1959, both of these percentage increases being well below our average rate of growth in recent years. Our sales were affected by the curtailed industrial activity and reduced rate of new home building, both of which were experienced nationally. Weather was about average, but over-all was adverse in comparison with 1959, the winter having been slightly better for our heating business, but the summer considerably less favorable for air-conditioning loads.

Earnings per share of common stock were $1.48, an improvement of 7 cents over 1959. Dividends at the increased rate made effective in October 1959 were paid in each quarter and amounted to $1.00 per share for the full year.

Total operating revenues in 1960 were $174,852,000, increasing $5,894,000 or 3½% over 1959. This compares with an average rate of growth for the past ten years of over 8% a year. Total operating expenses increased $3,976,000 or 2.8%. Higher State and local taxes, larger depreciation accruals, increased wage rates, and the costs of supplying additional electricity and gas were substantially offset by savings in other elements of operating expense. As a result the net increase in expenses was less than normally would be expected.

As an indication of the basic growth trend of business in our territory, the amount of additional electric and gas service contracted for in 1960 by industrial and commercial customers, expressed in terms of annual revenue it is expected to produce, was the greatest for any year in the Company's history. While the number of new homes built declined from the levels of recent years, information from local builders indicates an upturn before the end of 1961 may reasonably be expected. The 1960 census confirmed earlier estimates that population growth in our area is well above the national average and a continuation of this trend is indicated.

Operation of the first 191,000 kilowatt unit at our new Charles P. Crane Electric Generating Station is now expected to begin by June 1961. Work was started during 1960 on a second unit of the same capacity scheduled for initial operation in the early part of 1963. Capital expenditures for these and other facilities in 1960 amounted to $54,000,000, a new yearly high. To serve the growing residential and industrial needs for electricity and gas in our area, we foresee an increase of nearly 50% in our investment in facilities during the next five years, with an expenditure of more than $250,000,000 of which about $45,000,000 has been budgeted for 1961.

	1960	1959
Operating Revenues	$174,852,000	$168,958,000
Operating Expenses	$145,670,000	$141,694,000
Operating Income	$ 29,182,000	$ 27,264,000
Net Income	$ 21,952,000	$ 20,966,000
Earnings per Share of Common Stock	$1.48	$1.41
Dividends Declared	$1.00	$0.95
Construction Expenditures	$ 53,986,000	$ 37,943,000
Utility Plant at Year-End	$575,585,000	$527,036,000
Customers—Electric	545,142	535,739
Gas	396,344	388,765

J. Theodore Wolfe

PRESIDENT

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Baltimore 3, Maryland

retrospect this reviewer felt that he'd been looking over the shoulder of the legendary English administrator Samuel Pepys who (some years prior to the South Seas Bubble episode) posthumously regaled readers with his gossipy and enlightening record of the gay and often profligate activities of his times—largely confined to the 1660's.

Author Cowles' historical wanderings cover the early years of the 18th century, and in a somewhat similar manner. So, laconically, what greater praise! —*W. B.*

* * *

POLITICAL HANDBOOK OF THE WORLD: 1961. Editor: Walter H. Mallory. Published by the Council on Foreign Relations by Harper & Brothers. 253 pages. $4.50.

Now in its thirty-fourth year of continuous publication, the *Political Handbook of the World* remains a valuable source of information about the governments, politics and leading publications of every country in the world.

Additional information about the functions and personnel of the United Nations and its associated international agencies makes interesting reading by itself.

An excellent source book for Financial Analysts, and anyone else interested in current world-wide activities; i.e., our 5,000-plus non-member subscribers.

HEAR! HEAR!

"I read reviews to know what's going on, to show some spark of consciousness among daunting strangers and at home . . . and for the sheer happy hell of it."

—From an advertisement for The Observer, London

Index to Advertisers

First Life-Time Subscriber

The first life-time subscriber to *The Financial Analysts Journal* has been entered on the books. Business Manager John Stevenson established a rate of $100.

Our first life-time subscriber is Arthur F. Kleffke of Laird, Bissell & Meeds' New Haven, Conn., office.

Anyone else for life?

The Frankfurt Exchange

The Stock Exchange Journal, published by The Stock Exchange, London, is publishing a series of articles about "Overseas Exchanges." In the article on the Frankfurt Exchange, it is stated that "A London stockbroker or jobber entering the Frankfurter Wertpapierborse would hardly believe that this is Germany's busiest market place enjoying its biggest postwar boom. . . .

"The Foundation of the Frankfurt Stockmarket goes back to 1585. The 'old Borse' was opened in 1843. Some 36 years later a new building was put up in the centre of the town known as the 'New Borse.' . . . Ticker tape is not used, again reflecting the limited trading volume. In fact the overall impression is a strange blend of the new and the old. There is very little noise and the atmosphere is placid."

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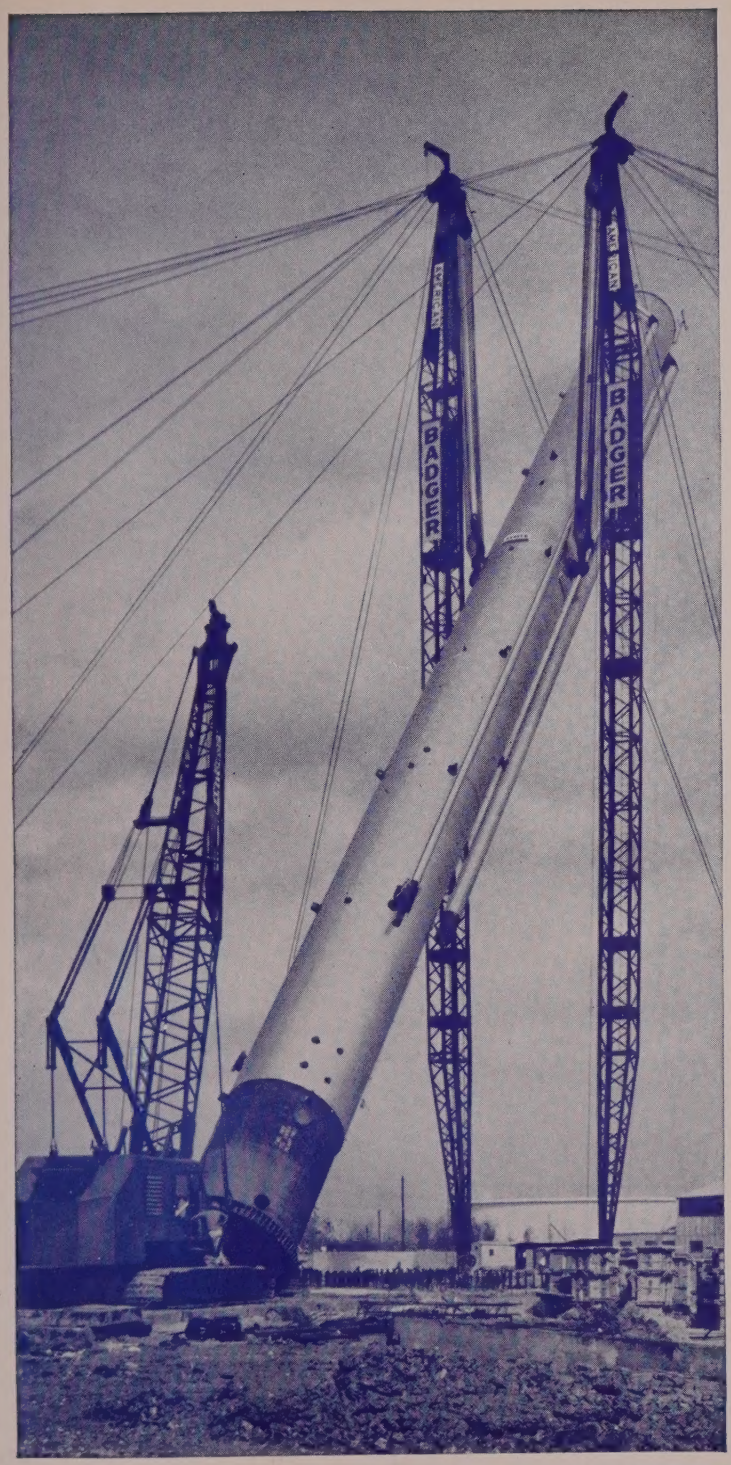

A Big Lift for Sinclair Chemicals

The tallest distillation tower ever raised in one piece was lifted to its foundation in Houston, Texas recently. Coming along are five more like it. All will be part of a plant being built by Sinclair-Koppers Chemical Company to make styrene monomer, an ingredient of plastics and synthetic rubber.

In this joint undertaking with Koppers Company, Inc., *the Sinclair organization continues to expand its petrochemical operations.* Sinclair Refining Company will supply the basic raw material for the new plant. This raw material – ethylbenzene – will be made into styrene for use or sale by Koppers.

Sinclair has increased its petrochemical production and sales at a rapid rate in the past five years. It expects to maintain this pace with projects like the styrene plant and others being planned. *Chemical manufacture is the fastest growing part of Sinclair's business.*

The AIChE — Sinclair salutes the American Institute of Chemical Engineers for encouraging the advanced processing techniques which promote industrial progress. Founded in 1908, the institute — through its 20,450 members — advances chemical engineering standards, encourages original research, and fosters engineering education.

Sinclair

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2. To the Industry: micromodular components — acoustical and vibrational testing systems for missile and jet aircraft producers — underwater speakers — electron tubes — telephonic and microwave communications devices — loud speakers for all purposes — missile carrying cases — specialized sound systems — the newest Voice of America radio station — linear accelerator for atomic research.

3. To the Consuming Public: closed circuit TV systems — hi-fi and stereo audio systems — electro-mechanical central control systems for coin-operated equipment — Voice of the Theater sound systems — portable broadcasting equipment — kitchen appliances — electronic testing equipment — refrigerating and air-conditioning equipment — vending machines.

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